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PC STRATEGY GUIDE

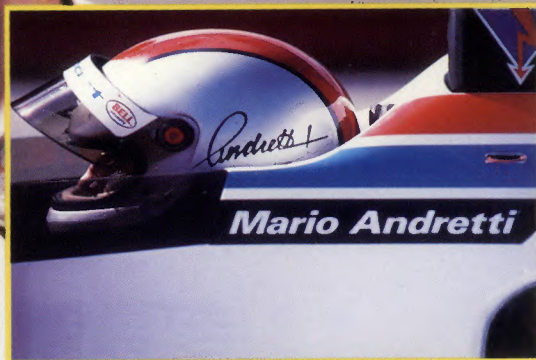
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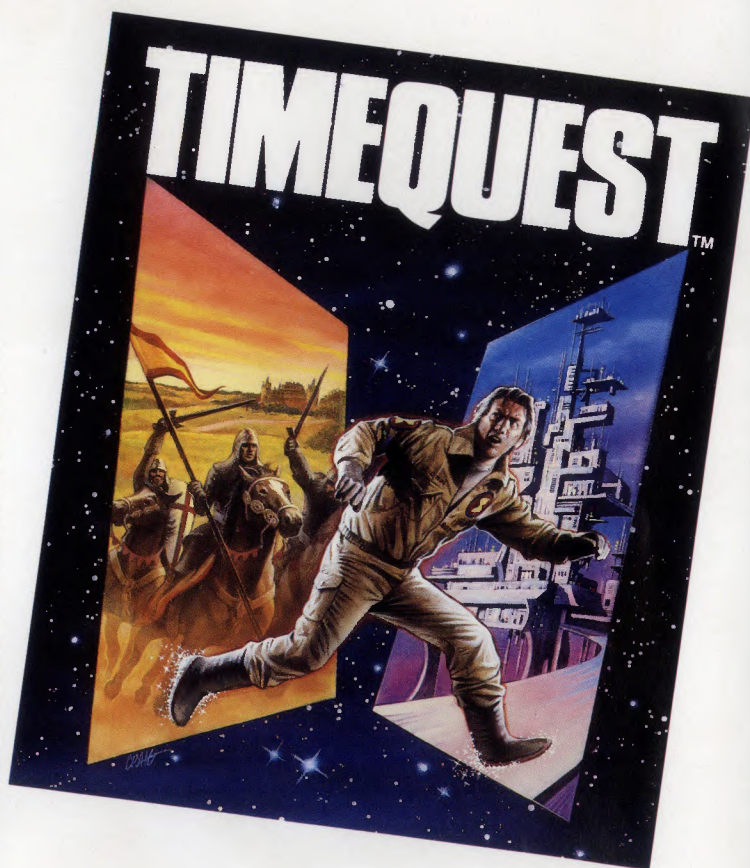
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Wizardry™: Bane of the
Cosmic Forge

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COVER

Mario Andretti
(from Electronic
Arts' *Mario
Andretti's Racing
Challenge*)

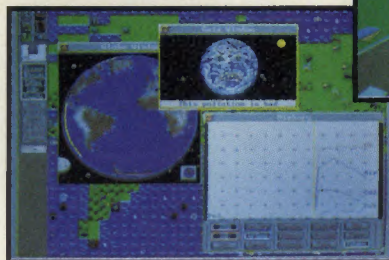
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This brand-new simulation is packed with features and should appeal to game players of any interest. Also included is an exclusive *Game Player's* interview with Andretti himself.

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This World War I flight simulator shows a degree of care and imagination that sets new standards in its class.

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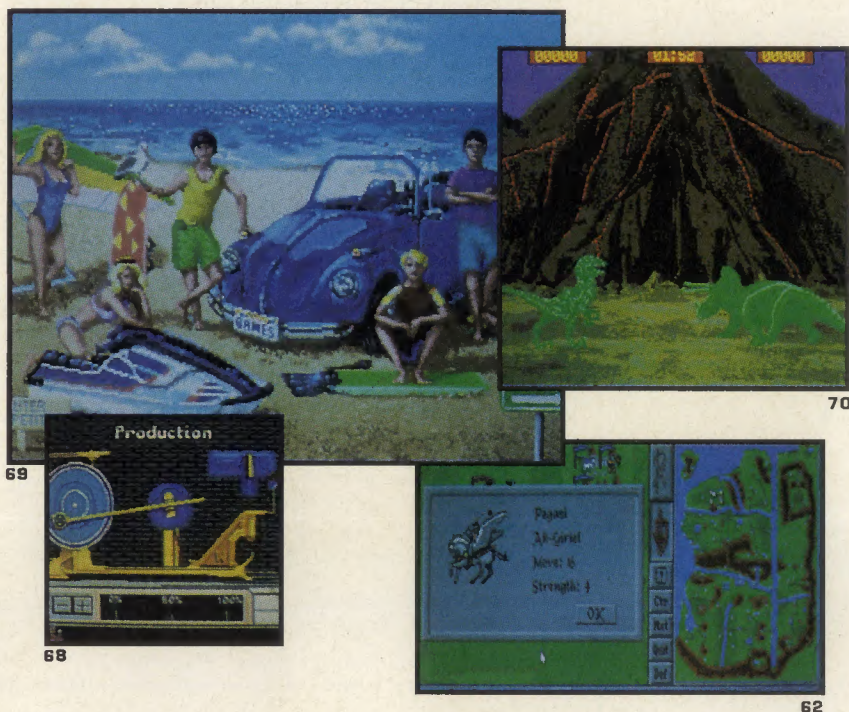
What more could you want from a graphic adventure? This sequel has a good plot and its own zany sense of humor.

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As a World War II sub simulation, this impressive product features a nice variety of missions — still, there's a curiously unfinished quality....

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EDITOR'S NOTES

DANCING ON THE HORIZON

We're excited by this issue. If you take another look at our cover, you'll see why. We've featured several important late-breaking stories, and we have exclusive coverage of some exciting products you'll see in the weeks and months ahead.

The latest title from Broderbund's award-winning Carmen Sandiego series is on the way. We were impressed by our first look at an early version of *Where in America's Past Is Carmen Sandiego?*. It appears that Carmen has a strikingly bold new look. For details, see p. 6.

Our cover story on *Mario Andretti's Racing Challenge* is an exclusive closeup look at a solid and exciting new simulation from Electronic Arts. We also had a chance to talk with the very candid and captivating Mario Andretti about his involvement with the game and about his racing career. The complete story starts on p. 10.

Because you're a game player, you are no doubt interested in PC sound and graphics. Ad Lib's soon-to-be-released Gold Sound Adaptor is the most versatile and powerful sound card on the horizon. And the next time you buy a VGA card or a PC with built-in VGA, check to see if it includes the new DAC chip from Edsun Labs. The results are pretty amazing. For details on both of these products, see p. 18.

If you're not in the market for the latest in PC technology, however, you might be interested in our feature, "Teach Your Old PC New Tricks." Here we've highlighted a variety of ways you can optimize your system to better enjoy playing many of today's memory-hungry games.

Finally, to those who have written, thanks. We want to continue to hear from our readers — so please keep those letters coming.

Lance Elko
Editorial Director

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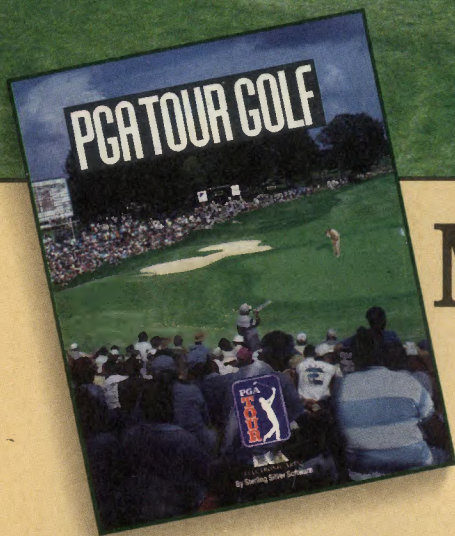
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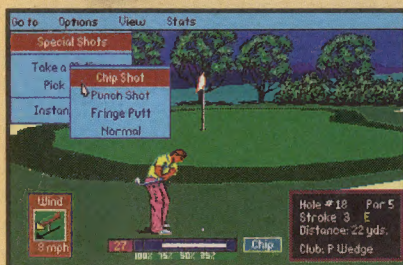
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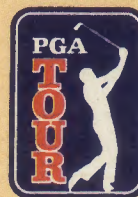


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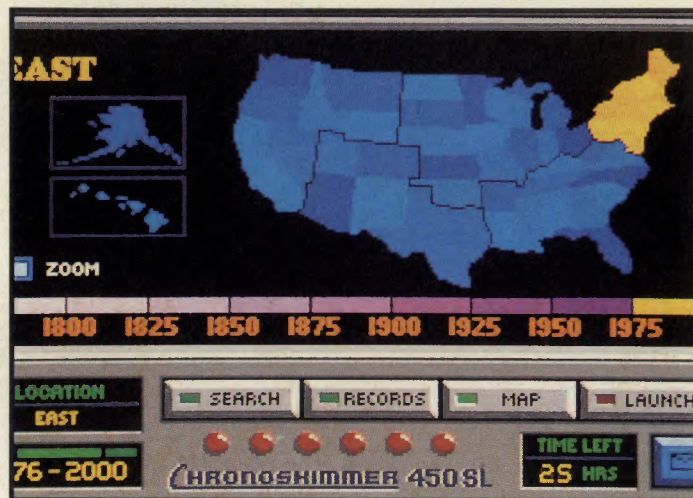
WHERE IN AMERICA'S PAST IS CARMEN SANDIEGO?

The award-winning and popular *Carmen Sandiego* series of mystery exploration games from Broderbund Software is off and running again with an engaging, well-crafted romp through time and space called *Where in America's Past Is Carmen Sandiego?* This newest addition, arriving soon on store shelves, is graphically more advanced than previous *Carmen* programs and has a superb collection of sound effects and music for owners of PCs with AdLib, Sound Blaster, or Tandy 3-Voice and Digital Sound capabilities.

For those unfamiliar with this long-running series, Carmen Sandiego and her gang of criminals have led computer sleuths of almost all ages on a series of detective adventures across continents and periods of history. Game players must ferret out the criminals from a variety of clues before the culprits can steal any more historical artifacts, works of art, national landmarks, and other cultural items.

Using resource materials packaged with the programs, such as "The New American Desk Encyclopedia" (*Where in Time Is Carmen Sandiego?*) or "The Rand McNally Concise Atlas of Europe" (*Where in Europe Is Carmen Sandiego?*), the games are fascinating as well as fun. And along the way, they invisibly impart a wealth of geographical, historical, and cultural information.

The latest *Carmen* is a crime spree through American history, with Carmen's gang stealing just about anything they can get their hands on. To aid your efforts at stopping this thievery, the game comes with



a specially published edition of the book, "What Happened When: An Essential Collection of Facts & Dates from 986 to Today," by Gorton Carruth.

Also vital to your efforts is the new and improved Chronoskimmer 450SL time-and-space machine that enables you to hop from clue to clue in

search of the villains. *Where in America's Past?* incorporates a number of game-play enhancements that let you travel where and when you wish at any time in the game. The net effect is to make this *Carmen* game even more challenging and versatile.

The graphics are excellent,



especially the dozens of locations and digitized historical photos that pop up throughout the game. Following the clues, you move around the nation via a U.S. map that's divided into geographical sections. Select a section of the country, and the individual states are shown in relation to one another, along with their dates of entry into the Union. The map showing the states changes depending on what period of time you happen to be in.

Stretch the Bloodhound is a new series character who pops up at the beginning and the end of the game, continuing the clever and humorous approach that's been a hallmark of the *Carmen* games. The animated sequences are also cute and well-designed. You can play the new game on PCs ranging from the XT on up through the latest power machines, and the graphics can accommodate Hercules, CGA, EGA, or VGA displays.

This is an exciting new addition to the *Carmen* series, with refinements and enhancements that should make Carmen Sandiego an even more popular thief to catch.

—S.B.

OIL'S WELL

What's a petrosaur to do? Poor Slater was minding his own business, happily sunning himself (as petrosaurs are wont to do), when progress reared its ugly head. An oil conglomerate has targeted Slater's home for exploitation, and going underground has only postponed the petrosaur's fate. Now, if you think the object of *Oil's Well* from Sierra is to help Slater and his buddies, think again. In a novel twist quite representative of the mentality of the '80s, your job is to drill into Slater's stomping grounds in a manic hunt for a bounty of black gold.

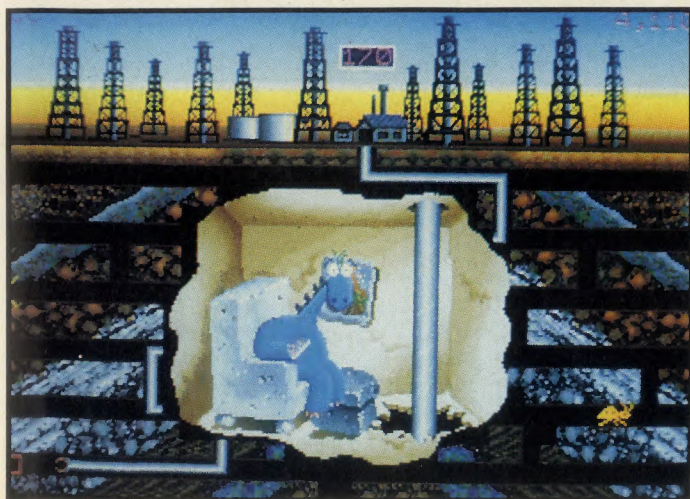
Sound like an object lesson from Michael Milken? Well, it's not quite that cold-hearted. You do drill for oil and other sundry items in *Oil's Well*, but you're not really out to torment poor Slater. Of course, in this kind of operation some casualties are to be expected. Slater seems to manage quite well throughout the game, however, as evidenced by the neat segue cartoons be-

tween each level. Does he live happily ever after? That's for you to decide.

Equipped with a drill, you try to make your way through the underground strata where oil deposits and valuable minerals called petromins are located. Trouble is, there are also critters who'll eat your pipe, as well as explosive mines that will put you out of business permanently. When you've snagged every petroleum pellet on a level, you'll progress to the next, for a total of eight levels.

There are some great graphics here, along with a nice soundtrack (if you have a sound board). *Oil's Well* is one of the new breed of computer arcade games that offers high production values and smooth play. There's a bit of incongruity between the game's cute appearance and its premise, but that's something for you to judge for yourself. Considered strictly as a arcade game, *Oil's Well* is a real gusher.

—G.M.



THE MED CONFLICT: HARPOON BATTLESET 3



Battleset 3 for *Three Sixty's* highly acclaimed naval war game *Harpoon* takes you into new and unusual waters. While *Battleset 1*, included with *Harpoon* itself, covered the Greenland-Iceland-United Kingdom corridor, and *Battleset 2* offered you the challenge of the North Atlantic and its convoy system, *The Med Conflict* places you in the eastern Mediterranean, near the entrance to the Black Sea.

Sixteen scenarios are included, but four of these are "studies." A study is designed to simulate a small what-if possibility, such as a minor conflict between Egypt and Libya. The full scenarios range from an Arab-Israeli war (Israel against several nations) to a conflict between French and Libyan warships. The NATO-Soviet confrontation is played down in *The Med Conflict*, although it occupies the first several scenarios.

The Med Conflict is a significant addition to the *Harpoon* library. As of this writing, the

Gulf War is still being waged, and this latest *Harpoon* battleset offers insights into the seemingly endless volatility of the area. It also allows armchair admirals to work with the same naval forces that the Gulf War has made so highly visible.

Besides introducing the forces of a host of small nations to *Harpoon* fans, *The Med Conflict* presents new war machines, such as hydrofoils, Soviet Foxbats, Mirage fighter-bombers, the fascinating French Gazelle, and new kinds of submarines. As always, *Harpoon* demands lots of memory, so it's a good idea to boot it from unadorned CONFIG.SYS and AUTOEXEC.BAT files. With so much going on, you're not going to want to miss any of it.

—N.R.

JACK NICKLAUS' U.S. OPEN — COURSE DISK VOLUME 4

For those who have mastered all the courses supplied so far with *Accolade's* Jack Nicklaus games, here come three more courses to remind us what bad golfers most of us are. Fortunately, playing *Jack Nicklaus' Greatest 18 Holes of Major Championship Golf* or the more recent *Jack Nicklaus' Unlimited Golf and Course Design* makes 250-yard drives down the fairway and perfect 30-yard chip shots quite easy, so we needn't worry about looking too bad.

This time around — packaged as Course Disk Volume 4 — it's Pebble Beach, Oakmont, and Baltusrol. Yep: the world-famous Pebble Beach, high on the California cliffs; the bunker-laden Oakmont Country Club in Pennsylvania; and the gorgeous Baltusrol, arguably the finest landscape in all of New Jersey. All are classically designed courses, and all provide their own wealth of difficulties.

The most demanding of

the bunch, strangely enough, is Baltusrol. Strangely, that is, because the other two have the more sinister reputations. Golfing at Pebble Beach often means praying that the wind doesn't carry your shots over the cliffs and into the Pacific Ocean, while Oakmont's design seems to have incorporated a record number of crater-sized sand traps and hills. But Baltusrol's famous fourth hole is practically impossible to play correctly, and a run of tricky holes along the back nine won't help your score at all.

Eventually, the Nicklaus games will incorporate every major golf course. For now, these three may be all you need to keep trying to prove that you're a great golfer after all.

—N.R.



IMPERIUM

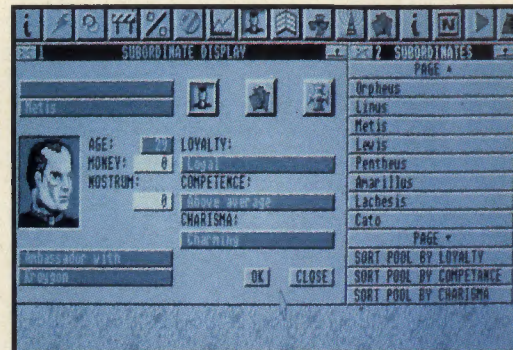
Imperium is a curious product indeed, a British import published by Electronic Arts that harkens back to a simpler age of computer gaming. It avoids not only fancy,

animated graphics, but — except for a single screen of star maps — color as well. That's right, the entire game is in black and white: data screens, production schedules, personality profiles, charts and statistics, even tactical battlescreens.

Although conquer-the-galaxy simulations are nothing new, *Imperium's* designers have come up with some new wrinkles that make this game particularly deep and involving. Galactic expansion is not fueled by simple megalomania, but by the discovery of a life-preserving drug called nostrum. Ingesting nostrum can give a character a lifespan of up to 1000 years; by controlling the distribution of nostrum, the emperor can wield enormous power throughout his galaxy.

There are four other emperors (computer-controlled) in this fictional universe. Commercial and military alliances can be formed — and broken — as circumstances and opportunities warrant.

Since ruling a galaxy is a pretty demanding chore, the player must carefully choose subordinates to carry out various functions. Some of these underlings need stroking, and



some need a lot of money — but all need to be unswervingly loyal if you are to carry out your grander strategies. As emperor, however, you have the means for a rather effective carrot-and-stick approach: You can bring unruly subordinates to heel just by withholding their supply of nostrum.

Imperium could have been an unwieldy game indeed, but a great deal of care was taken in creating a simple and friendly icon-based interface. Clicking on an icon lets you access various diplomatic, technological, or military procedures, which appear in windows of various sizes. The windows can be moved anywhere on the screen you like, so you can review a considerable amount of data at any one time.

With its complicated, layered playing system and its spartan graphics, *Imperium* is not likely to become a mass-market hit, but older game players may find in it a comforting return to a style of computer gaming that has all but vanished. *Imperium* has all the earmarks of a potential cult classic, and should attract a passionately loyal following.

— W.T.

WRATH OF THE DEMON™



Legends tell of a time when fear ruled the land. A time when no man, woman or child was safe from the spread of evil. A time when a fierce Demon sent his evil minions to roam through the land and make the Kingdom his own.

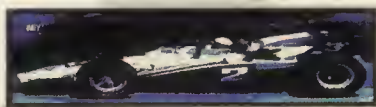
That time is upon us once again...

You have been summoned by the King to defend the realm, rescue the Princess, and rid the Kingdom of the evil Demon before all is lost. Your quest will lead you through caves, swamps, temples and castles before reaching your ultimate challenge... the Demon himself.

Wrath of the Demon combines spectacular graphics, animation, sound and playability, featuring:

- 3 Megabytes of graphics data
- 600 screens of action
- 1,400 frames of animation
- over 100 monsters, some larger than half the screen
- more than 100 colors on screen
- smooth 60 frames per second, 15-level parallax scrolling for realistic 3D effect





MARIO ANDRETTI'S RACING CHALLENGE:



Firing on All Cylinders

LANCE ELKO AND BRIAN CARROLL

Exploring new territory is a hallmark of Mario Andretti's 33-year career. The man widely acknowledged as the greatest race car driver in history has tested nearly every circuit in the world of racing. Andretti has won a national dirt track championship, stock car racing's Daytona 500, endurance sports car racing's Sebring 12 Hours, the Indianapolis 500 (on four occasions), and a Formula One world championship.

His newest territory is the world of PC games. *Mario Andretti's Racing Challenge* is a brand-new title from Electronic Arts, and it's an exciting racing simulation with a wide range of game features.

In creating *Racing Challenge*, Electronic Arts had to tackle a tough problem. The simulation's design was to include not only driving action, but also a player career path similar to Andretti's. This called for a close working relationship with Andretti himself

(see "A Conversation with Mario Andretti" following this article). The results are impressive. *Racing Challenge* is a very satisfying simulation with dozens of outstanding features.

FROM RAGS TO RICHES

In *Racing Challenge*, you start out as a rookie driver in need of a sponsor. And you begin exactly as Mario did, driving sprint cars on the dirt track circuit. Once you've proven you can win races in the sprint car series, you can graduate to modifieds, and then to stock cars, prototypes, Formula Ones, and, finally, Indy cars. Success isn't easy. A stock car doesn't handle like a sprint car, and a prototype feels nothing like a modified. Also, the experience you get by driving on a flat dirt track doesn't count for much when you're negotiating a bank on an asphalt

track. So before you consider yourself a competitor, you'll have to practice. Fortunately, you can practice with each type of car on any number of tracks.

Car control takes some getting used to. While you need only the basic driving skills — accelerating, braking, and steering — to maneuver around the track, you must also stay focused and keep a sharp eye out at all times. Pay attention to your dashboard readings, the track curves, and, during races, your rearview mirror, where your competitors appear rather quickly and sometimes in bunches.

Once you're ready to run with the pros, you'll need to prove that you can win time and again — it's the only way you can gain sponsors and earn money to buy better cars. Competitions are patterned after real races on real circuits. The Season Schedule gives you the location of each race and the order in which the races run. Just as in real competition,

preliminary races are run before the feature race. Here you try to qualify for the feature, or, in the advanced circuits, try to obtain a favorable pole position.

Many of the tracks in *Racing Challenge* — Daytona, Monte Carlo, Pocono, Indianapolis, Le Mans — are familiar even to non-racing fans, and each one simulates its real-life counterpart in size, appearance, track type, banks, and so forth.

Mario Andretti's Racing Challenge offers something to a broad spectrum of PC game players. Simulation buffs get to try out different race cars on a variety of tracks. Action fans who want a stiff challenge can jump right in and compete on the big circuits. Role-playing aficionados get the vicarious thrill of experiencing a complete rags-to-riches career like Andretti's. And racing fans get it all. Like Super Mario himself, *Racing Challenge* looks like a winner.



Your career begins rather humbly — like Mario's — with a sprint car. You must win on the dirt track circuit before you can advance to more glamorous cars.



Succeed on the sprint car and modified circuits and you might have enough winnings — \$80,000 — to purchase your first stock car.



Racing Challenge is a big game, but getting around is easy with the menu system.



It's a good idea to get an overhead preview of a track before your race. Monte Carlo is one of the prettiest in the game.



Inside a Formula One, you get a view of the straightaway at Monte Carlo.



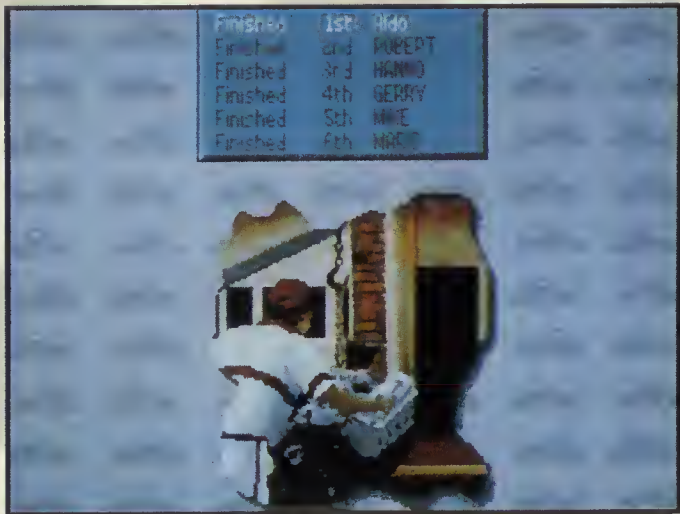
The grandstands at Ascot Park are full as you try to overtake a heavy field of competitors ahead of you. A look in your rearview mirror tells you that no one's approaching — that probably means you're in last place.



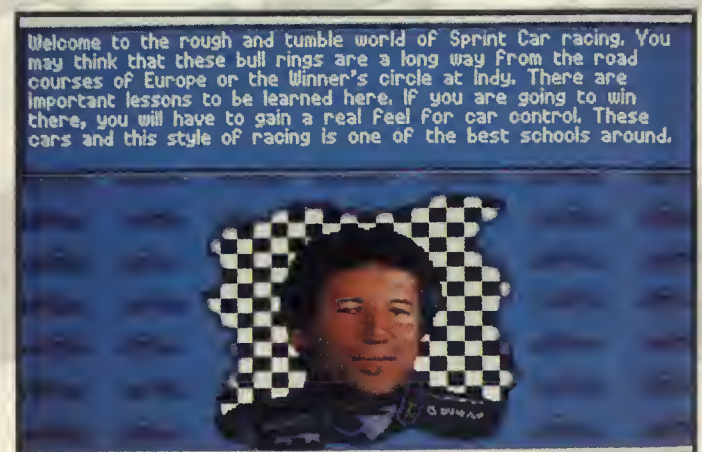
The Instant Replay feature lets you choose six different viewing angles — here, you've got a track camera aimed at your Indy car.



The sky cam over this dirt track shows a sprint car race in progress. If you crash, you won't want to miss a replay from this angle.



After each race, you get a report. In this race, Mario finished sixth.



Before major races, you can get advice from Mario. Since he's raced on all of the tracks in this game, you shouldn't hesitate to hear him out.



LucasArts on the art and science of entertainment

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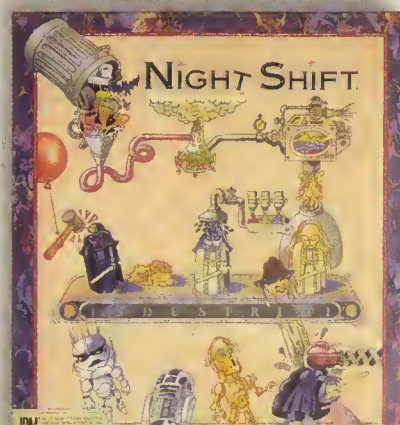
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Night Shift is available for IBM and 100% compatibles, Amiga, Commodore 64/128, and Atari ST personal computers. Visit your retailer or order directly with Visa/MC by calling 1-800-STARWARS (in Canada 1-800-828-7927).™ and © 1990 LucasArts Entertainment Company. Darth Vader and Indiana Jones are trademarks of Lucasfilm Ltd. All rights reserved. IBM is a trademark of International Business Machines, Inc. Amiga is a trademark of Commodore-Amiga, Inc. Commodore 64 and 128 are trademarks of Commodore Electronics, Inc. Atari and ST are trademarks of Atari Corp.



A Conversation with Mario Andretti



Talk with Mario Andretti and you'll discover that one of the most difficult things for him is waiting — waiting for a stop-light to turn green, for a feature film to begin, or for an interviewer to finish posing his next question. He's always looking for the next challenge — and he's always in a hurry to move on to it. Andretti's racing career is a case in point. Although he has won more money, pole positions, and road races than any other driver in Indy car history, he continues to strive for more.

We talked to the Montona, Italy, native about his quest, and about his involvement in the creation of *Mario Andretti's Racing Challenge*.

GP: How did the project with Electronic Arts come about?

MA: They felt that by combining some of my experience in the field with their know-how in producing simulations, they could come up with something the public might be interested in. We had several meetings along the way to discuss the nuts and bolts of how I do what I do, and how I look at things, so they could determine what their approach should be. I've been amazed at how much they've been able to pick up from our conversations and at their ability to translate that into, say, the behavior of the race cars, for example. My involvement has largely been merely talking, which of course is something I'm very good at.

GP: What was your goal in endorsing and helping to produce the game?

MA: The game is a way to translate what I do into something the average person can enjoy. Auto racing is a very non-participative sport at our level. It's not like professional tennis, where you can watch John McEnroe, for example, and then pick up your racket, run down to the local club and start swinging. You can use basically the same equipment as McEnroe and have something of the same feeling you would if you were playing professionally. You can watch auto racing and be fascinated by it, but other than getting a ticket in the family car on the way home, it's impossible to capture the same feeling that we experience during a race. A game like this one goes a long way towards reproducing that feeling and making it accessible to anyone with a computer. The concentration required on the tracks in the game is the same required out there on the real racetrack. It's amazing to me that this aspect of racing can be duplicated so realistically for the computer.

GP: What pleases you the most about the project?

MA: I've not seen the final product yet, but so far I'm very impressed with the attention to accuracy. At Indianapolis, for example, the game captures a lot of what we see from the cockpit. By that I mean reference points for what's around you. Just like at Indy, when you're coming down the straightaway, you can see the shade from the grandstands and immediately know where you are. In that way, I think the game captures the character of each of the particular events.

GP: What were some of the problems you encountered in this project?

MA: There's not much I can do but talk and try to express some of what I feel as a driver and what I must possess as racing skills. I can talk about

what the race car can do. It's up to the game technicians to try to understand the ins and outs of driving. That was sometimes very difficult because, for one thing, I'm not a teacher. I don't profess to be able to even teach for a driving school. I can't give information in those terms. All I can do is talk about the way I look at things. So, it took a while for them [the technicians] to understand me. They had to translate what I feel into something other people can enjoy when playing the game. I've opened myself up as much as I've ever done before on racing. You'll never find that in a library — how I drive, how I apply my skills. Those who play the game will learn something about me and about what it means to race in a way they could never learn by reading.

GP: The game starts players off with dirt-track sprint car racing. Why?

MA: It's what turned me on to racing and got my career started. It's a special art to be able to drive the cars sideways through the corners and to control a car that, for all intents and purposes, is out of control the entire time. It's also a good style to start out with because you can recover. It's a bit more forgiving than, say, racing on high-banked ovals. It requires racers to adjust to forever-changing conditions. You have to be able to predict what the track is going to be like. It can be like driving in a hard rain-storm or driving on a frozen lake. I've learned some things on the dirt track that have helped in Formula One racing, like how the cars handle, for example, and how to apply traction out of a corner. It's where I learned to be a throttle artist, meaning when to use the gas to go forward and not go all over the track. It's obviously not just hitting the gas and screaming around the track.

GP: *Mario Andretti's Racing Challenge* reflects your career by encompassing many styles of racing. Was that important to you?

MA: The most important thing in my career, the most valu-

able thing to me, has been my versatility. There are many different categories of auto racing — stock, Indy, and on and on. I've been curious and lucky enough to experiment in all of those areas. And my goal has always been not just to compete but to win in all of those different types of racing. I've been fortunate in achieving that goal. We wanted the game to reflect that versatility. When you play the game, you learn what adjustments to make as you race the various styles. You can't race on a dirt track the same way you would on a super speedway. This game illustrates that, I think, very well. It's easier to concentrate on one aspect of racing, but to be good at all of them is quite a trick.

GP: You never seem satisfied with what you've achieved. After so many years racing and winning, how do you stay motivated?

MA: The feeling you get from winning, from doing what you have to do to pull off a victory, is something you can never get enough of. Taking a car to the edge without falling off is kind of an addictive challenge, and I guess I'm still hooked. Does pride enter into it? Damn sure it does.

GP: Can you give us an example of a commonly held belief about racing that just isn't true?

MA: Probably the myth laymen come up with most often, what very few people realize, is how slowly things actually happen during races. It's not as super-quick as people think. Even in the computer game, when you realize you have cars around you, you also realize that they're going as fast as you are. That slows the action down because one car is relative to another. Believe it or not, I don't have to have the lightning-quick reflexes of a ping-pong player in the cockpit. In fact, a big no-no in this business is overreacting, because the key in crisis is not to overreact and to hold your emotions. Lightning-quick reflexes exerted in this business get you killed.

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TEACH YOUR OLD PC NEW TRICKS

How to Optimize Your Machine for Today's Games

GARY MEREDITH

It's a familiar scene. You bring home the latest flight simulator. The anticipation is almost too much to bear as you feed the floppies into your PC and its groaning hard drive. The last disk is loaded, you confidently type in the game's name—and all you get is a message: INSUFFICIENT MEMORY.

The newest games and simulators on the market these days are wonders, to be sure. But there's a price to pay for their increasing complexity and breathtaking graphics. Not too long ago, games ran perfectly well on older PCs with slower microprocessors, CGA graphics, and only 512K—or even 256K—of internal computer RAM memory. Many current games are designed to push DOS's 640K RAM limit, to utilize all the speed of even the faster 286-microprocessor-based AT-level machines, and to look best on Super-VGA monitors.

Short of upgrading to the latest \$5,000 486 33-MHz system, there are a number of steps you can take to optimize your current PC for the coming wave of powerhouse games.

FREE UP SOME MEMORY

Running out of RAM is probably the most common problem. The new games demand more RAM. Add a mouse driver and your new game may run impaired (sacrificing detail, speed, or some other feature), or may simply refuse to run altogether.

The documentation for most games tells you to remove any TSR (Terminate, Stay Resident) programs. The easiest way to get rid of TSR's and other memory eaters is to rename two files in the root directory of your hard drive: Change CONFIG.SYS to CONFIG.BAK and change AUTOEXEC.BAT to AUTOEXEC.BAK. Then reboot your computer by holding down the ALT-CTRL-DEL keys at the same time.

If this doesn't work, rename these two files as their original names, load your CONFIG.SYS file into a word processor, and do a little doctoring. Make a copy of the original CONFIG.SYS called CONFIG.BAK so you can restore it later. Then look at what's inside the CONFIG.SYS file. Usually, you'll find FILE= and BUFFERS= statements that set aside RAM space for more efficient file processing and disk performance.

Modify the CONFIG.SYS file using your word processor, DOS's EDLIN, or any other text editor that can work with plain ASCII text. With many games, you may be able to get by with only FILES=10 or even FILE=5 allocations, and you can drop the BUFFERS entirely, if you don't mind the computer accessing the hard drive more often. Save the altered CONFIG.SYS using your word processor's SAVE AS ASCII option. Then reboot the computer. Just remember to replace the original CONFIG.SYS file when you decide to use such programs as word processors or spreadsheets, which will usually require the original CONFIG.SYS setup.

Also, some innocuous-looking files may reside within

your AUTOEXEC.BAT and CONFIG.SYS files that can take a sizeable bite out of your RAM. VDISK, for example, uses part of your memory to create a virtual disk. Any drivers loaded in when you turn on the computer, including ANSI.SYS, can also use up valuable space. In most cases, these programs are geared more to the productivity side of the computer and aren't needed for playing games. Most games create their own operating environments when you load them.

SHRINK DOS

DOS 4.0 and higher versions can use up more RAM than earlier versions of DOS. When DOS 4.0 is first installed, you're asked to choose how much of DOS you want loaded into RAM at boot-up (for greater speed of access to various DOS functions). Since you or your dealer probably opted for a balance between RAM-resident DOS and free RAM workspace, you may be able to re-install DOS and this time request a minimal DOS RAM presence. The extra 20K of memory could make all the difference.

Alternatively, you might consider changing your operating system entirely. Digital Research's new DR. DOS 5.0 gives you all of the power and features of DOS 4.01 (with some welcome improvements), but takes up much less memory. Depending on your setup, you may be able to enjoy as much as 620K free RAM by switching to DR. DOS.

UPGRADE YOUR PROCESSOR

The complexity of some newer games puts a considerable premium on processing speed. Even 286-based computers are hard-pressed to do justice to many of the simulators coming out these days. However, there are a couple of hardware enhancements that will improve the performance of even the early 8088-based PC's. NEC offers the V20 and V30 processor chips, which fit right into the standard 8088 socket on your computer's motherboard. For less than \$15 (if you are buying mail order), you can effect a noticeable improvement to your computer's processing speed. You may have to do a little detective work, however, since these chips, never big sellers, are becoming more and more difficult to find.

Another, although significantly more expensive, way to gain a little extra speed is to install an 8087 math co-processor chip. The drawbacks to this approach are that the chip costs from \$80 to \$150 (mail order), and it doesn't speed up every program.

For a bit more (starting at around \$200), you can buy 286 accelerator boards, which can really give your old PC a kick in the pants. Because these boards still rely on some of the systems from the host PC or XT, they won't make your computer quite as fast as a standard AT. But you should be happy with the increase in performance nonetheless. They're very easy to install (you just need an empty expansion slot), and with their prices as low as we'll probably see for the near future, an accelerator board could make the most significant — and inexpensive — improvement to a PC's efficiency.

THE RIGHT VIDEO

Which video mode you select at the start of a game — CGA, EGA, VGA, etc. — can affect the overall speed of a game. While it's certainly simple enough to pop a VGA card into a PC or XT and to upgrade your monitor, you may not like the results. Extra resolution and color require extra processing power. To a great extent, this additional processing is done on the video board itself, but it still falls to the computer's microprocessor to handle some of the additional graphics information.

If you own an older PC, and you play games featuring anything more than basic animation (particularly such graphics-intensive games as simulations), you should probably select nothing higher than EGA. Most games feature setup programs that let you force a video mode on your computer. You can often speed things up by dropping a notch, such as from VGA to EGA.

DEFRAG YOUR HARD DRIVE

One speed factor that some game players neglect is the hard drive. Saving and deleting files on a disk drive eventually creates "holes" on the drive, spaces the drive head must traverse searching for active files. Even worse, an individual file might be in pieces, scattered, *fragmented* all over the surface of the drive.

Fragmentation occurs because a computer saves a game — or any program for that mat-

ter — by depositing it (or parts of it) onto available spaces as it comes to them. After a few months of loading and erasing various programs, free zones can be few and very far between. When this happens, the computer might load in 15 percent of a file, have to search elsewhere for the next 20 percent, then go somewhere distant for another chunk, and so on. This seriously retards loading the files that most games bring into the computer's RAM during game play, especially if you're using an older and slower drive to begin with.

Disk utility programs, such as those by Norton or Mace, can work wonders with a hard disk suffering from the "swiss cheese syndrome." Alternatively, there are similar utilities available via shareware programs found on BBS's and information services such as CompuServe. These programs rearrange everything on the disk, putting allied files next to each other, and making individual files contiguous. That considerably shortens the distance the drive head must travel during a given load.

Games are reaching new levels of quality in sound, animation, graphic detail, and playing complexity. For better or worse, we're in the fast lane on the road to virtual reality, and this requires all the power that cutting-edge computers can offer. This trend, combined with the extraordinary velocity of technological advances in the computer world, suggests that there are going to be several new generations of machines in this decade alone. It's a sad fact that older computers will indeed sink to relic status with startling rapidity. But there are still several software and hardware tweaks available to keep PC and XT owners in the game for the present.

GP

NEW PC SOUND AND GRAPHICS POWER!

GARY MEREDITH

Two affordable, exciting new products — a sound board and a video chip — promise to take the PC world beyond the already vivid graphics of Super VGA and powerful sound of the current crop of sound boards from Ad Lib, Roland, CMS, and others.

Ad Lib's eagerly awaited Gold Multimedia Stereo Sound Adaptor boasts specifications and features that can support the most realistic and elaborate game soundtracks. But there's more: The tools provided by the Gold Sound Adaptor allow you to work some truly creative magic with sound synthesis and processing.

Ad Lib's new Gold Sound Adaptor is a powerhouse synthesizer-on-a-card — it delivers remarkably high-quality music and sound effects, as well as digitized speech.

The board features 20 channels of sound, enhanced FM synthesis, 12-bit digital-to-analog conversion, programmable tone and volume controls, and stereophonic output. You, and game designers, can

tap this powerhouse synthesizer-on-a-card to create impressive music, sound effects, and digitized speech. Two additional channels are available for sound sampling through the provided microphone, and there are four rates of Pulse Code Modulation sampling.

A MIDI (Musical Instrument Digital Interface) connector allows the card to communicate with other synthesizers and electronic music devices. It also includes an auxiliary input channeled through an audio mixer, enabling you to combine CD audio with other digitized or synthesized sounds. Finally, Ad Lib has included a game port for joysticks.

You'll be able to try one out in July, when the board debuts in three different configurations. The PC-1000 will work with all IBM compatibles. The AT-2000 adds a SCSI interface, while the MC-2000 is designed for computers with IBM's Micro Channel Architecture. The PC-1000 will carry a suggested retail price of \$299.95, and the AT-2000 will cost one hundred dollars more. The MC-2000 will retail for \$499.95.

On the graphics front, all the talk seems to be about IBM's

Edsun's DAC chip uses a patented process to produce a stunning VGA screen (2,048 x 1,536) with a palette of more than 700,000 colors.

new XGA graphics standard. But Edsun Laboratories, a small Massachusetts company, has introduced a product that may add considerable life to the VGA standard. The company's new DAC chip uses a digital-to-analog conversion technique and a patented process called continuous-edge graphics to produce a VGA screen with an apparent 2,048 by 1,536 resolution and a greatly increased palette of more than 700,000 colors.

The chip doesn't change the VGA standard resolution, but it makes use of the increased variety of color shades to effectively "blend" the transition from one pixel to another, for near-photographic picture quality. What's really exciting is that the chip directly replaces the standard VGA board's converter at a cost of less than \$30. The DAC chip is not available as a consumer item, but is starting to show up on the VGA boards of several computer and board manufacturers.

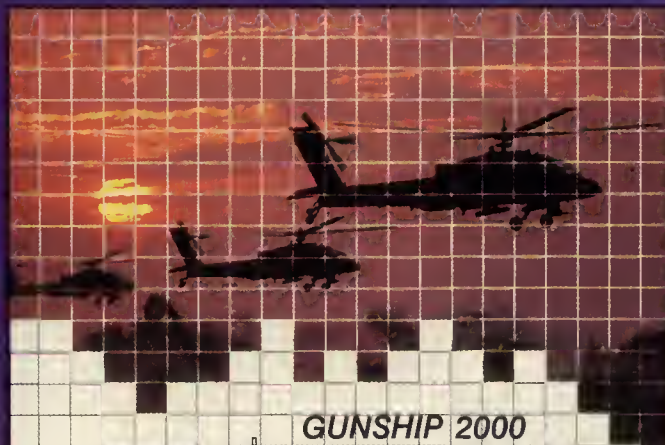
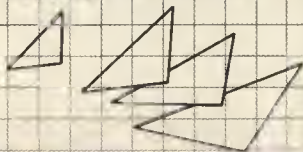
GP

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Make-believe is best when it's believable. That's why **Darklands** is so exciting. It's a fantasy role-playing quest through medieval Germany re-created just the way medieval Germans actually believed it to be. The troubled realm cries out for a true hero to deliver it from its demons, alchemists, superstitions, unholy religions and a whole host of other fantastically believable challenges.



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s you look out across the valley, you squint to see any details through the haze and the glare. It's only been a few hours since sunrise,

and yet the heat is almost too much to endure. The large amount of carbon dioxide in the atmosphere makes breathing difficult; the oppressive temperatures only compound the problems of respiration. You might wish for rain to cool the parched landscape, but the acidic droplets that pass for precipitation only burn the skin and eat away at the flora. Not that a dry day is any picnic. With such a sparse ozone layer, the sunlight that gets through the haze is just as destructive as the rain.

Future conditions on Earth? Maybe, but this scenario also describes how our world probably looked a few billion years ago. In *SimEarth*, you have the opportunity to be there at the beginning, to see the Earth as an infant in the cosmos. And you have the ability to experiment with all facets of planetary science, perhaps even coming up with a new, improved Earth. All things are possible in *SimEarth*, a product which transcends the term "computer game." An impressively deep and thoughtful simulation, *SimEarth's* only boundary is the



In the main menu, you can choose the scenario for your planet-building efforts. The various difficulty levels set limits on your time and resources.

SimEarth

GARY MEREDITH



When you select a world at random, you must name it before deciding on a time scale in which to work. Choosing the geologic scale will let you start at the very beginning of a planet's existence.

limit of your imagination.

This is not exactly a sequel to Maxis' immensely popular *SimCity*. You should look to the *SimCity* add-on modules for that. Nor is it a god-playing fantasy like *Populous*. *SimEarth* is a true "what if?" simulation, with a huge database at its core. *SimEarth* is based substantially on James Lovelock's Gaia hypothesis, which views the Earth (or any planet) as a single living

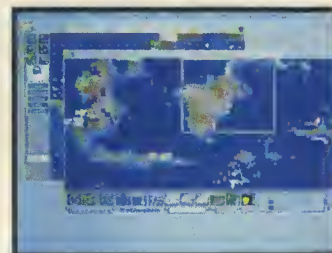
organism.

Maxis has taken a good deal of what we know of planetary evolution, from the fiery beginnings to the normally icy endings, and set up that information in a form that can be modified and rearranged with almost limitless variety. Would you like to see the effects of increased water, decreased oxygen, or a different distribution of flora and fauna?

SimEarth lets you experiment with those conditions, and many more.

THE HERE AND NOW

Those who are more interested in coming up with ways of getting us out of the mess we find ourselves in today can work with the Earth of the late twentieth century. With all the effects of resource mismanagement in place, you must find ways of retracing and rectifying the mistakes of the recent past. Of course, your first order of business will be to get the atmosphere back to somewhere near equilibrium. You're provided with machinery which can alter the atmospheric makeup, but that's a somewhat unrealistic way of dealing with the problem. It would probably be better in the long run to adjust your manufacturing output to lessen pollution, while reseeded depleted areas such



By clicking on the icons at the left, you can show as much or as little information as you wish on the flat projection. It's less confusing just to use basic life, land mass, and water representations as the default display.



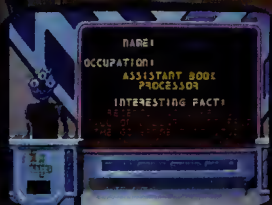
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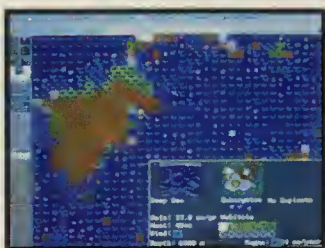
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as the Amazon rainforests to decrease the amounts of carbon dioxide.

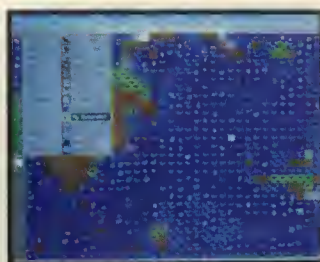
SimEarth's use of multiple windows and pull-down menus makes it easy to manage all the variables involved here. Simply point and click (a mouse isn't an absolute necessity, but it certainly improves the simulation's manageability) to access maps, charts and graphs, information windows, and action menus. You can choose to view your world as a flat map or a spinning globe, and you can specify the information that's shown on each map, from topographical and meteorological data to information on the dispersion of settlements and cities.

Using the cursor, you can roam the planet's surface to easily pinpoint where ecological imbalances or natural disasters may cause problems. And, beyond purely natural development, there is the opportunity to find, define, and influence sentient life as it evolves socially and technologically.

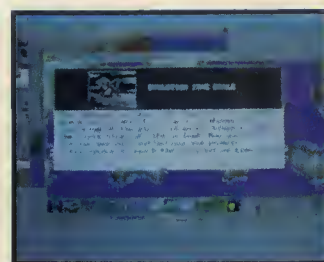
The evolution of our planet (and, by logical extension, other planets) is often shaped by natural disasters such as earthquakes, tidal waves, meteors, and volcanic eruptions. Scientists have hypothesized that the impact of a giant meteor (or alternately, a considerable increase in volcanic activity) could have caused a dust cloud great enough to kill off the vegetation vital to the survival of the dinosaurs, some 65 million years ago. Plate tectonics (the gradual shifting of pieces of the Earth's upper crust) resulted in Australia breaking off from the rest of the continents early on, allowing a unique array of animals to



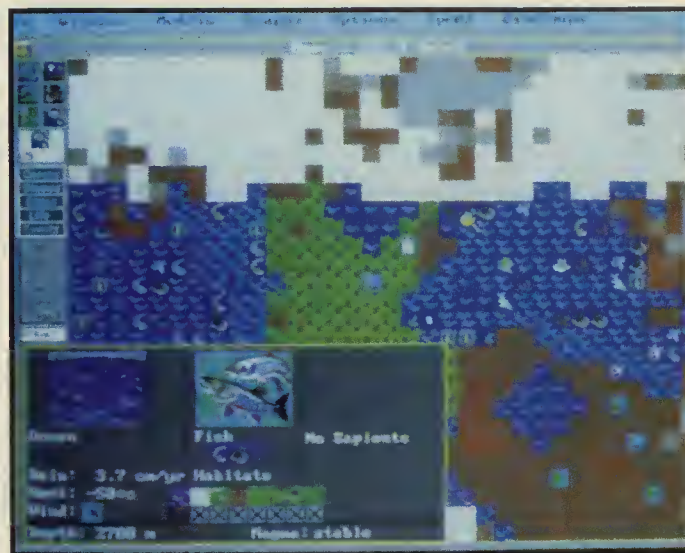
The life distribution chart will tell you where your planet needs some fine-tuning. Using the terrain editor and the biome tool, you can eventually make the planet suitable for higher forms of life.



There's a tendency at first to overuse the planetary modification tools. Remember that you're dealing in terms of thousands or millions of years, so go easy on things like oxygen generation.



SimEarth doesn't hand you your new planet without first educating you. The help screens and documentation make up an impressive basic planetary science course on their own.



Even after several years of beefing up the atmosphere with carbon dioxide, Mars is still a pretty chilly place. The newly created seas are warm enough, however, to support some of the hardier types of fish.



By calling up the history chart and clicking on various gases and the air temperature, you can see what effects increased carbon dioxide can have on a planet's average temperature.

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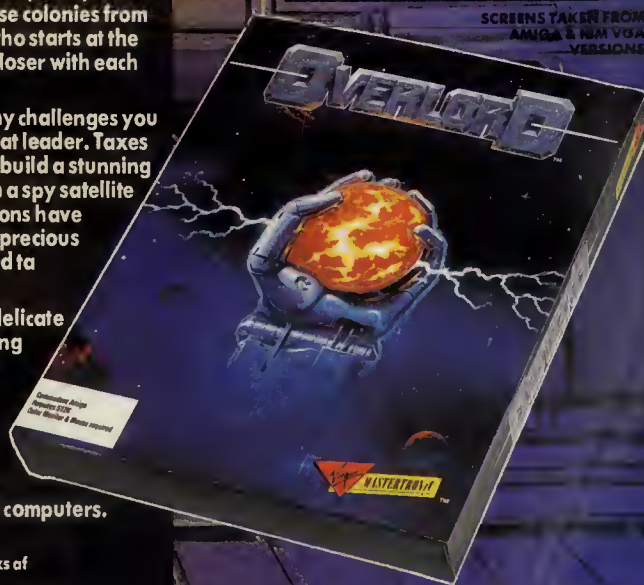
Strategies are needed to meet the many challenges you will face as you strive to become a great leader. Taxes have to be imposed to raise money to build a stunning array of equipment... all the way from a spy satellite to a hydropanic plant. Mining operations have to be set up and maintained to obtain precious minerals. Farms need to be established to feed your growing populous.

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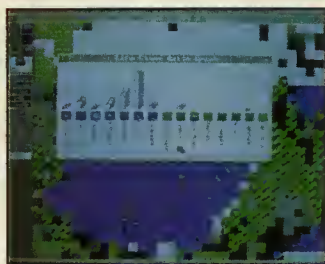
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evolve there independently. The tools provided in *SimEarth* let you experiment with many such variables, often with surprising results. For instance, increasing volcanic activity only slightly over the historical norm would place enough extra carbon dioxide into the atmosphere to cause the Earth to eventually end up more like Venus.

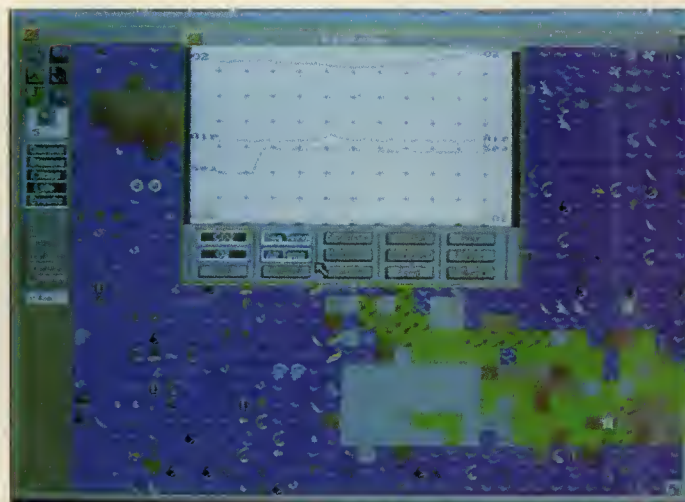
Speaking of Venus — and Mars as well — *SimEarth* also features a terraforming option that puts you in charge of making these neighbors of Earth capable of supporting life. The two planets represent opposite ends of the spectrum when it comes to terraforming.

Venus, closely approximating the Earth in size and mass, possesses a dense atmosphere of mostly carbon dioxide. Combined with Venus' proximity to the sun (about 25 million miles closer than Earth), this results in an average planetary temperature of 477° Centigrade. To bring the planet's temperature down to something a little less "tropical," you must first replace the carbon dioxide with oxygen, which has a cooling effect. Once things have chilled a bit, you'll be able to drop a few ice meteors onto the surface without having to worry about the water boiling away.

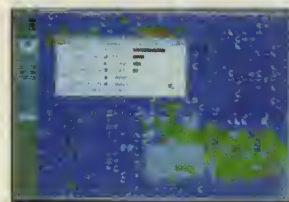
Mars, on the other hand, suffers from too little atmosphere, and from being too far away from the sun. So you must perform the opposite of what you would do on Venus, and supply Mars with air that has enough oxygen to support basic life, but with enough carbon dioxide to initiate the



When terraforming a planet, it's essential to develop the widest possible base of biomes (in *SimEarth*, "biome" refers mainly to plant life) and lower life forms.



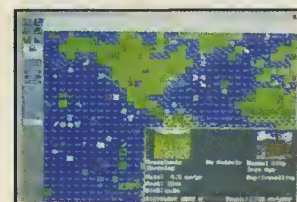
Terraforming Venus poses problems much different than on Mars. To lessen the greenhouse effect of the dense atmosphere (thus cooling the planet), start with a few oxygenators on the surface.



Although it would seem logical that several ice meteors might cool things off, they only evaporate and increase the greenhouse effect. The key to a permanent cooling is eliminating as much carbon dioxide as possible.

greenhouse effect and the resultant warming.

On both planets, the introduction of life forms is perhaps the trickiest task. Choosing the right type of life from the variety of basic forms is a complex problem, but the timing of the introduction is even more critical. On Venus, for example, introducing life into the seas is a pretty simple matter, once you've lowered the temperature enough. Grasslands and primeval forests are another story, however. All that extra oxygen you've produced to cool the planet means conditions are perfect for extensive burning of any kind of organic matter. Once the fires begin, the extra smoke and carbon dioxide will




Here's a real challenge — our own planet as it is today. Decades of neglect and policies based on greed and ignorance have brought us to an ecological crossroad.

put you right back where you started.

A MODEL OF DAISIES

Perhaps the most fascinating option in *SimEarth* is Daisyworld, a fictitious planet invented by NASA scientist James Lovelock as a model to illustrate his Gaia hypothesis. Daisyworld simplifies the equation by being a world that supports only daisies. By inserting variations in solar heating and atmospheric composition, the spread or recession of daisies can be controlled. These experiments dramatically show the differences between a vicious circle (positive feedback loop), which usually leads to disas-



FALCON 3.0

THE ONLY SIMULATION BETTER THAN THIS ONE IS STILL CLASSIFIED

The bogey came out of nowhere. You see him just off your tail. The adrenaline hits you like a fist. You call your wingman: "Viper One, I've got a bandit on my six. This is not good..."

The original Falcon™ F-16 Fighter Simulation was acclaimed for its realism. Now, Falcon 3.0™ takes this authenticity to the edge. The flight models are real. The terrain is real. The radar and weapons systems are real. And the threats are real. No phony weapons or magic bullets here... just the best civilian F-16 simulation available. You don't just play Falcon 3.0, you strap yourself in and get ready for battle.

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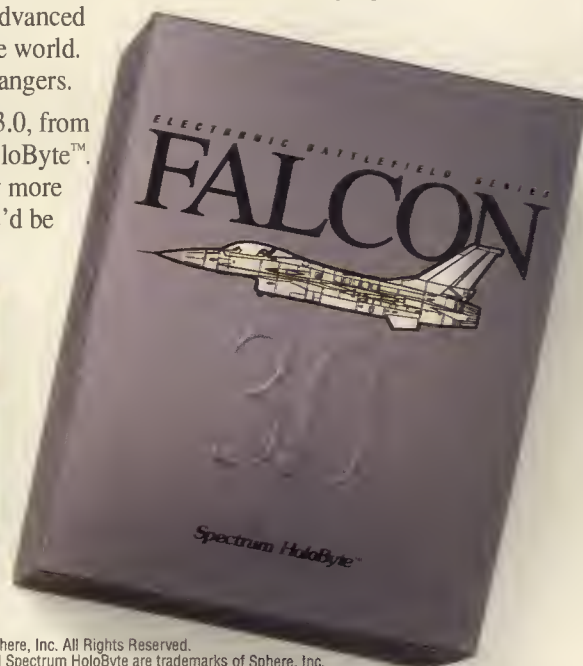


**You and your wingman
begin the attack, deep
behind enemy lines.**

... Nearly blacked out, you ease forward on the stick. The g's drop, and you can see again. There he is! You're on HIS six now. This is going to be sweet. As you get tone you know he's yours.

True to the General Dynamics F-16 Falcon, Falcon 3.0 gives you all the exhilaration of flying one of the most advanced fighters in the world. And all the dangers.

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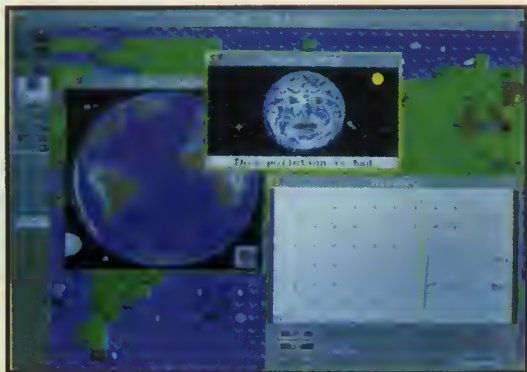
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From the reaction you get when you click on the Gaia window, it's obvious that your primary objective should be to immediately eliminate as much pollution as possible.

ter, and a virtuous circle (negative feedback loop), which is embodied in the self-regulating functions of most Earth systems. The Daisyworld scenario of *SimEarth* supports the so-called "strong" Gaia hypothesis, which implies that life is interdependent on the other Earth systems—that is, life influences the geology and climate of Earth, and vice versa.

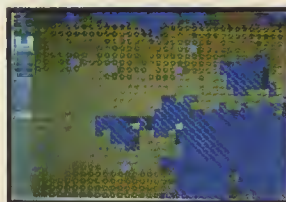
On a nuts-and-bolts level, *SimEarth* is a well-designed simulation that makes full use of your computer's graphic and processing abilities. The various maps and charts are stunning, in either VGA or low-resolution MCGA (even EGA screens are nicely rendered). With one of the supported sound boards, the accompanying sound effects and music are particularly effective. And the point-and-click interface lets you negotiate the many windows and menus with a minimum of distress. You'll need considerable computing power, though, both in speed and memory. The huge amount of information to be manipulated precludes play-



Daisyworld's sole life form is the daisy, although there are many different varieties of the flower. Since there are no clouds, *Daisyworld's* albedo (reflectivity coefficient) is a function of the varying shades of daisies.

ing *SimEarth* on anything less than a 286 computer with 640K of RAM and a hard drive.

SimEarth is a marvelous creation, so full of detail and imagination that you don't so much play it as experience it. With the environmental problems we face in the next few years, I don't think it's an overstatement to say that everyone could gain valuable insight from a few turns at *SimEarth*. In much the same way as its predecessor, *SimCity*, has been used as a planning and teaching tool by



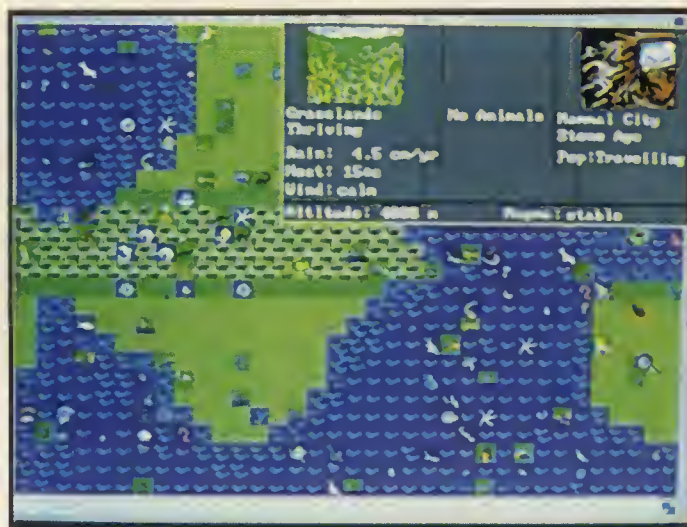
Your mission on *Daisyworld* is to regulate the planetary temperature in the face of increased radiation from the sun. The number and color of the daisies determine how much sunlight reaches the surface, so controlling the flowers' population is essential.

governments and schools, *SimEarth* could also be an extremely useful resource.

SimEarth is not an easy game to get into immediately because there's a lot of background material to digest before you can really appreciate what's going on. Fortunately, Maxis' documentation is a good read, full of fascinating facts, though not so many as to discourage the casual player. You can jump right in by using the experimental mode, but for a real grasp of what *SimEarth* has to offer, it really helps to study a bit beforehand. I promise you that it's quite painless. And you'll be rewarded by a unique computer gaming experience, a simulation that, hopefully, people will play and think about for years to come.

GP

Hardware requirements: 640K minimum memory; VGA, MCGA, EGA, Hercules, and Tandy 16-color graphics; hard disk required; mouse recommended; AdLib, Sound Blaster, SoundMaster, and Tandy sound boards supported.



If sociological and technological development appeals to you, you might want to try your hand at advancing the people of Stag Nation. The key here is somehow to increase the population to the point where the people can progress beyond subsistence living.

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The main menu in Red Baron offers a wealth of different ways to enjoy the simulation. If you like, you can jump right in and fly a mission without even reading the manual.

Red Baron

WILLIAM R. TROTTER



For a real challenge, try a mano-a-mano duel with one of history's famous aces. The Red Baron himself will probably take you out in about three minutes.



If you become a famous German ace, you'll be able to customize your personal aircraft as France's Georges Guynemer did with his bright yellow Spad.



Always hold your fire until you're close — your machine guns are likely to score a solid hit only at close range.

world. The shadow now looms huge in the ring sight and you open fire, sending a swarm of incendiary bullets into the murk, knowing that if the Zep catches fire, it'll light up the sky like a second sunrise.

The sense of being alone in

a vast and dangerous sky, unable to talk to anyone by radio, relying on a handful of primitive instruments, flying aircraft equipped with weak engines and even weaker wings — all this comes through powerfully in Dynamix' breathtaking

World War I flying simulation, Red Baron.

Eschewing a quickly marketable "me-too" simulation, Dynamix has taken a lot of time and care with this product. The designers have, in fact, virtually rethought the whole concept of flight simulators and created a program that makes it easy for a novice to jump right in and start having fun. Yet Red Baron retains such remarkable depth in its several layers of options that even the most experienced joystick jockeys can find all the challenge they could ask for.

AS REAL AS YOU LIKE IT

At the heart of Red Baron's gaming system is the "realism panel," where, before each mission starts, you can fine-tune the simulation precisely to the degree of difficulty commensurate with your skills. By starting off at the "novice" setting, you'll get aircraft that handle reliably and which fly without the sometimes-deadly quirks and idiosyncracies of their real-life counterparts. You'll also get on-screen grid references to make navigation simple, and a machine gun that never runs out of bullets. About the only thing bad that can happen to you is being shot down. Bad enough, true, but if you manage to land a damaged plane, you'll probably walk

Dawn. Enormous woolly cloud banks hang over Dover. The Zeppelin—which was last seen heading southwest, on its way to bomb the factory complex at Brighton — is up here...somewhere. But it's a bloody big sky, and you lost your wingman flying through that mass of clouds over Tunbridge Wells. Maybe you'll find him, maybe not. You crane your neck to see behind you and off to either side. Nothing but sky.

The engine on your little Sopwith Pup is straining as you fly in enormous circles to gain precious altitude, your ears keenly alert for any hint that your carburetor is starting to freeze up.

Suddenly, just as you're about to enter a great gray anvil of cloud, you look down. There she is! A vast black shape glides below you, like a shark of the sky, nosing into the clouds. You put the stick over, thankful that you took the time to get that extra 1000 feet of altitude — it means you can attack from above, the only angle which offers protection from the Zeppelin's multiple machine guns.

It's gone into the clouds now, but you can still see its sinister shadow as your plane follows into a grayed-out

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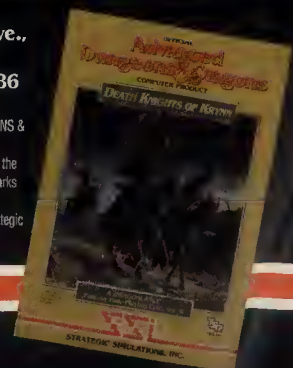


MAYA SCREAMS IN DESPAIR AS SHE RECOGNIZES THE GRUESOME REMAINS OF HER DEAD LOVER. SIR ARD BRANDISHES HIS SWORD AS HIS DEATH DRAGON SNOOPS FORWARD THE SCATTERING CROWD.

IBM EGA DISPLAY



LORD SOTH TURNS TO YOU BEFORE MOUNTING HIS NIGHTMARE. WITH AHAH I HAVE GATHERED TODAY, I SHALL HAVE AN INVINCIBLE ARMY. TREASURE YOUR PATHETIC VICTORY, IT WILL NOT BE LONG LIVED.



away without serious injury.

As you fly on these beginner settings, you still get to practice the basic tactics and skills that you'll need in order to stay alive on the harder settings. Whenever you feel ready for it, you can go back to the realism panel and start adding features: realistic weather, for example (so that when you fly into a cloud, the whole screen goes gray), or guns that sometimes jam.

If you think you're up to the challenge, you can opt for realistic flying characteristics, instrumentation, and mechanical reliability; then you'll be facing the same odds the real World



If you start your career early in the war, you'll have to take to the sky in some pretty flimsy aircraft, such as this D. H. 2. Of course, the enemy's machines will be fairly crude, too.

War I pilots had to face. Chances are you'll come away from that experience with new respect for the men who flew these crates, and new comprehension of why their mortality rate was so high.

If you want to become an expert student of World War I aerial tactics, you should certainly read and study the manual chapter titled "Boelcke's Dicta." German ace Oswald Boelcke (40 victories; killed in October, 1916), though not as well-known as some of his comrades, was generally thought of as the fighter pilot's fighter pilot. He was perhaps



Tape any mission and play it back from any angle. You can also jump in and take control at any time during the playback.



For a deep, involving scenario, try flying a full career. Many pilots last only 3-5 missions (just as in real life), but the more you fly, the better you'll get.



After you've started your career, you can review a map of the front. Allied and Axis aerodromes are indicated by blue and red dots, respectively, and clicking on a dot brings up information for that airfield.

the keenest and most analytical student of tactics on either side, and his eight "dicta" encapsulate the essence of his experience: Keep the sun behind you, fire only at close range, always keep a line of retreat open, always meet a diving attack head-on, etc. Once, when he was asked to summarize his doctrines, Boelcke replied: "Well, it is quite simple. I fly close to my man, aim well, and then he falls down."

You can fly single missions, including balloon-busting missions that provide a lot of gratifying fireworks,

or you can opt to enlist in either the Imperial German Air Service or the Royal Flying Corps for a whole tour of duty. Careers may be started early in the war, halfway through, or in 1918, when aircraft development and aerial tactics had reached a new level of sophistication.

In the career mode, you'll fly every sort of mission, including routine patrols during which absolutely nothing happens (the potential for boredom from this realistic touch is mitigated by the thoughtful inclusion of a "time compression" feature). If you

ROTOX™

The jolt of the landing jets, a piercing whine rapidly descending in pitch. The troopers off-load. They are Cyborg Class 2-A, approved to carry heavy energy weapons and tactical missiles for off-world combat.

Every battle means fresh new injuries, every lost limb a gleaming cybernetic replacement, to make them better, faster, stronger.

This is the proving ground for Rotox. Specially constructed landscapes in deepest space provide a nightmare environment of deadly machines and hostile life forms. Mistakes are fatal, but success will lead Rotox to the high powered weaponry he needs to escape.

SURVIVE and you will build yourself into a lethal fighting machine.

FAIL and your soul will wander the galaxy forever.

- 10 levels, each with a different theme which must be cleared before Rotox can proceed to the next level.
- Stunning state-of-the-art graphics and music.
- Initially armed with only a lazer gun, Rotox must find extra weapons as he battles through the levels.
- Weapons include scatter-bombs, grenade launchers, jet packs (lets you fly to other sections on the same level, but watch out you don't crash - your fuel is limited), heat-seeking missiles home in on your enemy.
- Features unique 360° rotating landscape technique.

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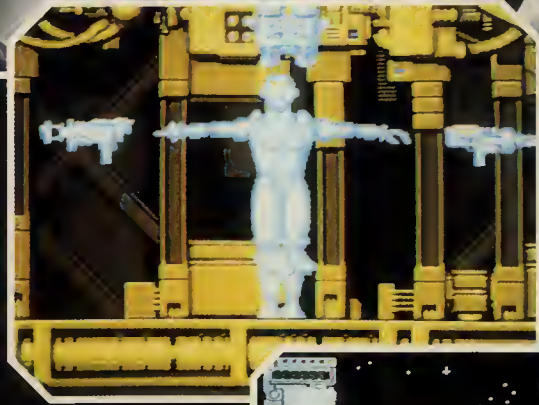
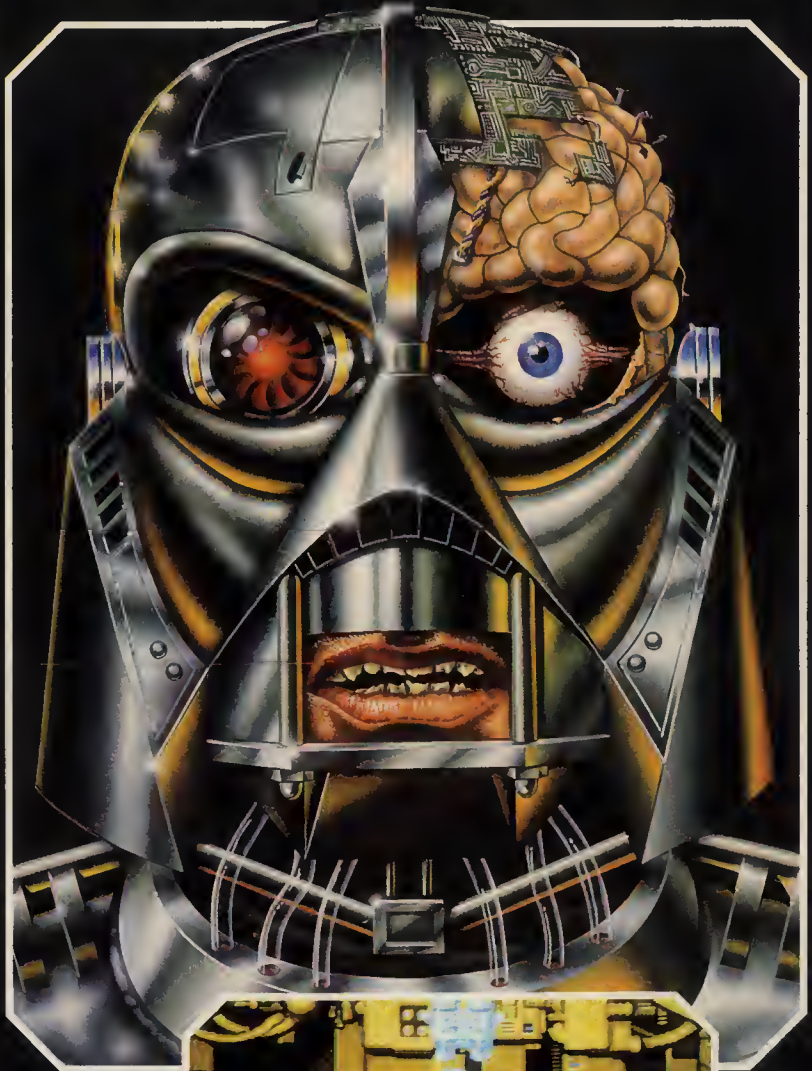


Screen shots are only intended to be illustrative of the game play and not the screen graphics which vary considerably between different formats in quality and appearance and are subject to the computers specifications.

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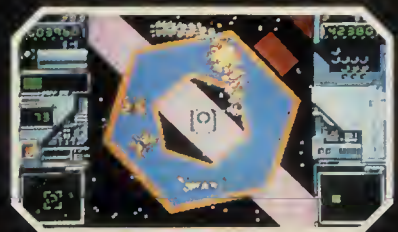
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choose to start early in the war, you'll fly those missions in some pretty flimsy and underpowered aircraft. As time passes — assuming you survive — you'll be assigned new planes, transferred to new squadrons, and perhaps given a chance to custom-paint your personal aircraft, just as many of the real aces did (the German and French ones, at least; the R.F.C. frowned on the practice).

Another feature that many players will enjoy is the option to refly actual historical missions. These scenarios allow you to relive, vicariously, highlights in the careers of such great fliers as Max Immelmann, Frank Luke, and Ernst Udet.

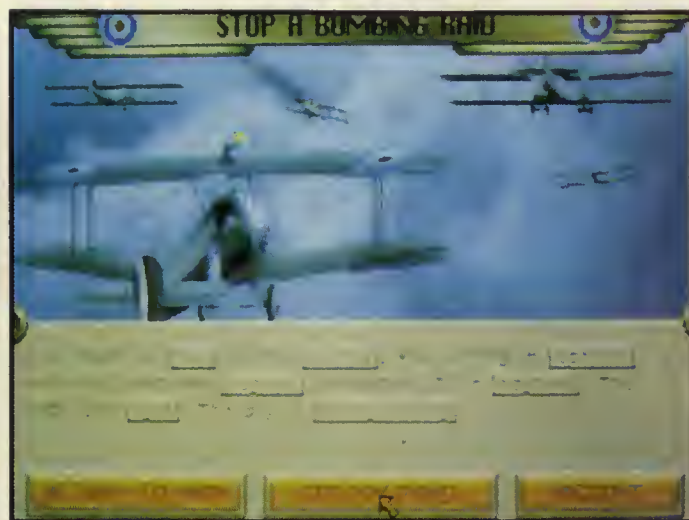
HEAD-TO-HEAD WITH THE BARON HIMSELF

Perhaps the greatest challenges in *Red Baron* are the one-on-one dogfights you can have with the great aces. Want to challenge Baron von Richthofen to a duel? Want to see if you can outfox the young Hermann Goering? Want to see how long it takes the vain but deadly Rene Fonck (who twice shot down six German planes in one day) to splatter you all over the French countryside?

All of the great sky knights of legend are here, awaiting your challenge to do battle, and each computer opponent has been programmed to fly and maneuver in the style of the historical character chosen. Your only chance against most of these guys is to study their tactics diligently, and use your



The "realism panel" allows you to fine-tune the simulation, adding more authenticity as your expertise and confidence increase.



Individual missions let you jump right into the action or practice a specific set of flying skills for use in a career.



A single keystroke lets you observe your missions from a midair "chase plane" position, and also lets you fully enjoy this program's exceptional graphics.



Don't forget to check behind you periodically — that's where the enemy will try to come from during a dogfight.

knowledge to try to anticipate their moves.

Also worth study is the section of line drawings that show the arcs of fire for most of the types of aircraft you'll be engaging, including balloons and Zeppelins. Each opponent has a blind, an angle from which you can attack with no threat of defensive fire. If you can get the sun at your back and position yourself at the correct angle, your chances of victory will increase significantly. Incidentally, if you have all the realism options on and you fly toward the sun, your monitor screen will suddenly flare dazzlingly — an object lesson on why it is desirable to attack "out of the sun" whenever possible.

And watch your altitude!

Without time compression, it takes a long time to nurse an underpowered Fokker Ein-decker back to dogfighting altitude. In just a few minutes of action, you can suddenly find yourself surrounded by exploding "archie" rounds, 500 feet above the trenches and a sitting duck for any enemy plane above you.

Graphically, *Red Baron* is a state-of-the-art product. At the touch of a key, you can move from your cockpit into a chase-plane position behind your aircraft for a thrilling cinematic view of the action. All missions can be recorded and played back later from any viewing angle you choose. Moreover, Dynamix has made it possible to stop the replay and jump back into the mission at any



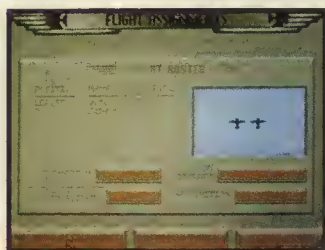
THE ANSWERS YOU NEED

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point, in order to try out any ideas that may have come to you as you watched the tape.

Players with sound boards (the game supports five different types of sound systems) are in for a treat. Engine noises, flak bursts, the gratifying metallic "whap" of your slugs hitting a target, the alarming "spang!" of an enemy bullet shattering a wing strut — all add greatly to the realism. And the background music that heralds the game's opening credits is appropriately stirring.

As the final touch to this magnificent simulation, Dynamix has provided a beautiful book of documentation (ring-bound, so that it folds back flat without damage), crammed with historical photos, tactical



The flight assignment screen lets you view the particulars of any single mission before it starts, and gives you the option of customizing it.



You'll probably survive if you manage to land a heavily damaged plane, but a serious wound requires a stay in the hospital.

diagrams, and full-color plates of many of the aircraft encountered in the game.

In fact, every aspect of *Red Baron* shows a degree of care and imagination that sets a new standard for flight simulators. It's both "easy" and "hard," with all sorts of gradations in-between. Even if you've never



Scratch one Gotha bomber! Explosion, tracer, and damage effects are very convincing in *Red Baron*.



You can run a dozen "careers" simultaneously, some on the German side, some on the Allied side. There are plenty of missions, so events rarely become predictable.

tried a flight simulator before, *Red Baron* makes it easy to start having fun right away. And if you're a veteran of conventional flight simulators, you'll find it quite challenging to put the realism settings on maximum and pit your skills against not only the enemy, but also against engines that freeze at high altitudes and wings that fall off during power dives.

It's hard to think of anything Dynamix could have done better in this product. *Red Baron*, the simulation, is as much an aristocrat as its namesake.

GP

Hardware Requirements: 640K minimum memory required; 256-color VGA only; hard disk and joystick recommended; mouse optional; supports Roland MT-32, PS/1, LAPC-1, AdLib, and Sound Blaster sound boards.

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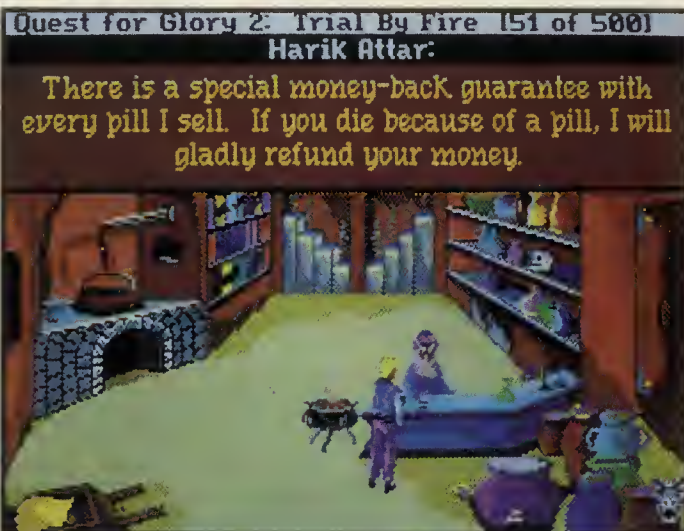
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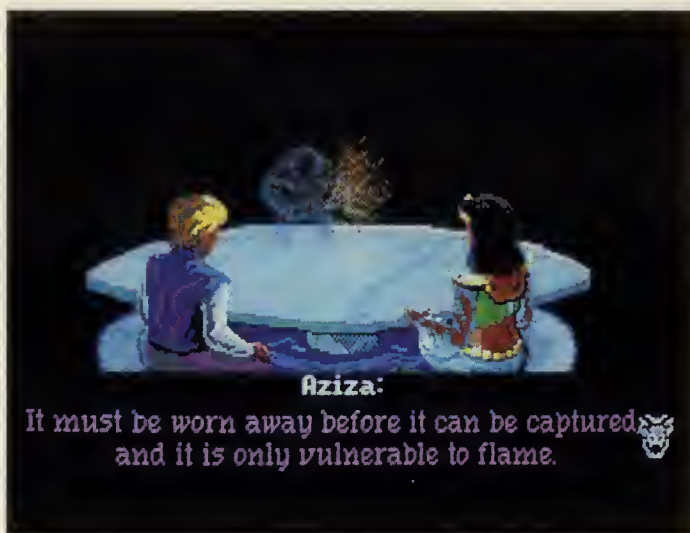
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Regardless of your profession, you need to stop by the apothecary, where Harik will concoct some valuable potions for you.

Quest for Glory II: Trial by Fire

LESLIE MIZELL



Remember the rules of etiquette when you visit Aziza — the enchantress is too valuable a source of information for you to offend. If you have any questions about how to battle an Element, she has the answers.

sister city, Raseir, has been taken over by an evil wizard. This magician, Ad Avis, has imprisoned the city's emir and placed its citizens under martial law. Even worse, the Elements of Fire, Air, Earth, and Water have devastated Raseir and are now headed toward Shapeir, threatening it with fire and flood. And the emir of Shapeir has disappeared. This city really needs a hero!

A HERO BY ANY OTHER NAME

As in *So You Want to Be a Hero*, you can choose to be one of three characters — fighter, magician, or thief — in *Trial by Fire*. Although the game plays basically the same no matter which character you choose, many of the puzzles you encounter are tailored to specific professions. There are also problems all three characters



Every action you're required to do in *Trial by Fire* has a reason. If you're challenged to walk a tightrope, practice until you're an expert.

will face in which various solutions will work, depending on your hero's specialties. For example, if a hero were trying to obtain an object that's not for sale, the fighter could battle for the object, whereas the magician could use a spell to procure it or the thief could steal it.

Once you've chosen the profession of your hero, you can examine his statistics and then distribute an extra 50 points to the categories in which you wish to strengthen his skills. It would be wasteful, for instance, to allot points to lock-picking if your character is a fighter, or to bolster the magic skills of a thief. Sierra suggests these point allotments: For the fighter, divide your points among strength, vitality, and fighting skills; for the magician, split points among intelligence, agility, and magic; and for the thief, add ten points each to agility, vitality, luck, stealth, and lock-picking.

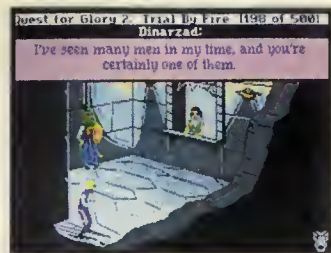
If you've played *So You Want to Be a Hero*, it's possible

If you've ever wanted to be a real hero without risking your life, you need to check out Sierra's *Quest for Glory* game series.

It's designed for would-be heroes, and it provides hours and hours of challenge and fun.

In the first *Quest for Glory* game (the series was originally titled *Hero's Quest*), *So You Want to Be a Hero*, you earned the title of hero by saving the medieval town of Spielburg from the grip of the evil witch Baba Yaga. *Trial by Fire*, released several months ago, is the second adventure. Here, designers Lori and Corey Cole spirit you away to Shapeir, a village right out of *The Arabian Nights*.

Without your help, Shapeir has considerably less than 1001 nights left to exist. Its

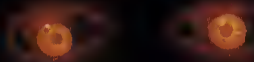


It's best to exchange all your gold at once so Dinarzad won't keep taking out commissions. She's an important contact — especially if you've chosen to play as the thief.

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to import your character into *Trial by Fire*. There are both advantages and disadvantages to doing so, and whether you should start with a seasoned hero depends largely on how you fared in the first game. (Imported characters don't receive 50 extra points.)

When we imported our thief hero into *Trial by Fire*, he ended up with greater strength, intelligence, agility, vitality, weapon usage, and climbing skills than a new character would have, but with fewer points in luck, dodging ability, stealth, lock-picking and throwing skills. Our imported character

also had considerably more points in both health and stamina. All things considered, our original character was a significant improvement

over a newly created one.

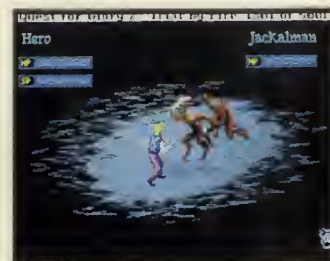
No matter what career your character follows, it's important for him to practice his arts. A fighter should accept any opportunity to fight; a magician should learn every spell possible; and not only should a thief sneak instead of walk to increase his stealth, but should also pick the lock on any door. Make the right moves with your hero and by game's end, he should have the maximum number of points (200) in most of the skills of his trade.

THE ELEMENTS OF HEROISM

The city of Shapeir is composed of many twisting alleys and streets connected by four plazas. Your first move would logically be to buy a map — but for some reason you forgot to exchange your gold for dinars back in Spielburg. So you have to hunt for Ali the money changer before you can truly get started. Don't panic

as you try to maneuver through the mazelike street system. Once you find Ali and buy his magic map, you can almost always point-and-click to arrive at your destination.

Exchange *all* of your gold for dinars — you don't want to have to keep returning and paying commissions to Dinarzad the money changer. Once you have a map in hand, explore the plazas and buy any wares the merchants have for sale. You should also start



During the day, the desert is the haven of brigands, terror sauruses, and scorpions. At night, you'll encounter scorpions and ghouls, as well as packs of jackalmen you must battle.



The first Element you encounter is Fire. Lure it into the alley with incense (you should have only one bag), place the container which will hold the Element on the ground, then use water to weaken it.



Your saurus is better than a map — and more affectionate. There's no need to retrace your steps in the desert; Shapeir is only one screen away any-time you tell your saurus to "go home."



It's important to talk to Julianar the tree-woman after each of the three acts (Compassion, Sacrifice, and Love) you must perform. She won't bear fruit until you've completed the Act of Love and asked her name.



Your saurus is more loyal than a puppy, and not much more intelligent. Could he have something to hide? Aziza the Enchantress will reveal his true persona.

buying potions, pills, weapons, and magic items from the stores in the plazas—but keep an eye on your funds. Although there are ways to get more money, the opportunities won't come along until later in the game.

Time in this game is divided into days, and as a result, events happen at a leisurely pace, to say the least. Foreexample, you won't be able to go to Raseir until day 17. If you're familiar with the style of play in Sierra games, you'll probably want to adjust the time scale to its fastest speed. Otherwise, those mid-afternoon hours can really drag.

Although defeating the four Elements (Fire, Air, Earth, and Water) is your primary goal in Shapeir, there are other quests. You need to spend some time in the desert fighting brigands, jackalmen, and scorpions. You also need to restore the soul of Julianar the tree-woman, and obtain the ingredients for the dispel potion. And you'll have to stop by and see what you can learn from the enchantress and the astrologer.

But before you can get to



Once you reach Raseir, stop by the Blue Parrot Inn. Signor Ferrari, the proprietor, has some valuable advice. He's also a valuable contact for thieves.



In a scene right out of a Humphrey Bogart movie, you must steal "the stuff that dreams are made of" from a house in Raseir.

Raseir, you must defeat the Elements. Aziza the Enchantress will give you the information you need to fight them, but make sure you have the lures and containers necessary to fight each of the Elements when the flames start licking through Shapeir or when the plazas start shaking from earthquakes.

The first Element you encounter, Fire, must be lured into an alleyway with incense. When your incense bag is empty, put down the lamp (the container for Fire), use water to weaken the Element, then put the flame in the lamp. The Air Element is the most difficult to defeat—especially if you've selected a difficult arcade level. Throw dirt into the center of the Element's tornado until it is unable to move, then quickly capture it in the proper container.

The other two Elements are no problem to defeat. The Earth Element turns to dust when you throw just one burning powder between its eyes, and you can use the Air

Element to blow the Water Element off course, then capture it in the appropriate container.

HERO AT LARGE

After you've captured the four Elements, restored the tree-woman's soul, and located the emir, you're ready to travel to

Quest for Glory 2: Trial By Fire [382 of 500] Ad Avis:

But how can the moon be where it cannot be? You! You're the Hero. Answer me how the moon can be between the Dragon and the Scorpion?



Raseir. The grateful citizens of Shapeir give you all the provisions you need, so don't worry if you forgot to fill your waterskin.

Once you've checked into the Blue Parrot Inn, talk to the proprietor to get the scoop on the town. Unfortunately, your map doesn't help much in

Ad Avis hypnotizes you and makes you follow him to the Forbidden City, but even his wizardry can't open the doors of the tomb. You hold the item that will place the moon between the dragon and the scorpion.

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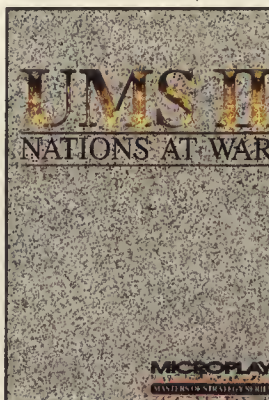
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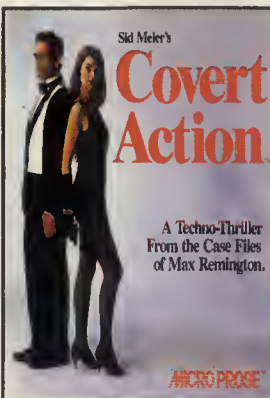
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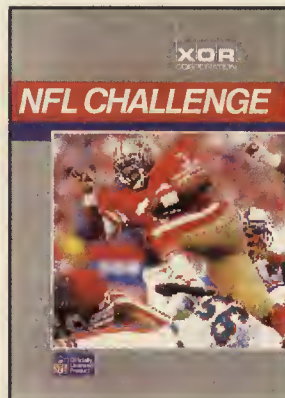
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'DAS BOOT' from THREESIXTY PACIFIC is based on the experiences of Peter Cramer a surviving U-Boat Captain. It captivates the player with a visual panorama unlike any other seen in submarine simulation. Sound board support, historical missions, and 256 color VGA graphics combine with multiple camera views and instant replay to make this an action packed simulation. **\$29**

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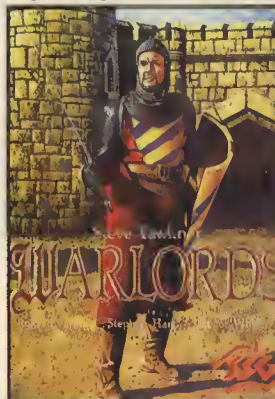
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'WORLDS AT WAR' by Lyric Software is a game of naval combat on a galactic scale. Simple in concept, you can play the tactical study for an hour; or the campaign game for a weekend. Features include random map generation, hidden movement, design your own task forces, capture planets to build more units. CGW said "...like **EMPIRE**, what this game has is play-value". **\$30**



'WARLORDS' from STRATEGIC STUDIES GROUP is a huge eight player strategy game of empires and armies, castles and heroes, monsters and dragons. Capture cities to increase production. Use your heroes to form alliances. Improve castles and garrison troops to defend your empire. Lay siege to your enemies' castles to destroy his armies. Ambush his heroes to destroy leadership. **\$34**

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Raseir, but at least most of the streets here are boarded up. If you manage to get lost, however, you're in pretty deep trouble, because Raseir's streets have no signs. You should also remember that there's a strictly enforced curfew in the town, so you need to be indoors by sunset — unless, of course, you're a thief.

But no matter how careful you are, you're going to wind up in jail. And no sooner do you escape than you find yourself in the clutches of Ad Avis, hypnotized by his magical gaze. Zip! Under his evil spell, you're off to the Forbidden

City to help fulfill the prophecy you've heard so much about ever since you arrived in Shapeir. Once again you must brave Fire, Air, Earth, and Water until you

reach the tomb of the demon Iblis, a terrible being imprisoned in a shard of crystal.

No sooner has Ad Avis grabbed the crystal for his own evil plans than you're released from your spell and realize that you've been duped. There's still time to regain your hero



Although you can't stop Ad Avis from stealing Iblis, you can return the demon to his tomb. You just need the help of the one thing that's missing from this Arabian Nights tale — a genie.

Hardware requirements: 640K minimum memory; VGA, MCGA, EGA, CGA, Tandy 16-color, and Hercules graphics; hard disk recommended; 8mhz or faster machine recommended; mouse recommended; joystick optional; supports sound boards.



If you can't stop Ad Avis from completing the ritual, you can say good-bye to Raseir — and the rest of the world as well.

status — but only if you hurry. Iblis must be returned to the Forbidden City before he destroys the world.

Trial by Fire is truly a superior graphic adventure. While many role-playing games throw logic to the wind or force you into meaningless tasks, *Trial by Fire* is extremely cohesive. The repeated use of the Elements unifies the intricate plot. And if you wonder why you should be walking a tightrope early in the game, rest assured that it's a skill you'll need later on.

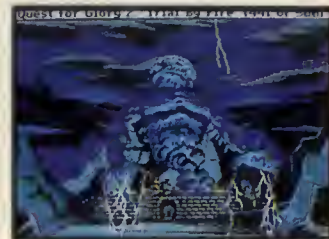
Although it doesn't contain some of the naughty verbs

and nouns that many of us try to use in Sierra games, *Trial by Fire* has its own sense of humor. Bogart fans in particular will enjoy Raseir, where allusions to *Casablanca* and *The Maltese Falcon* run rampant. This game also has Sierra's most endearing character — Roget the Saurus. This bewitched and bewitching bipedal reptile has the personality of a beagle and much more charm than the human he eventually turns out to be. Is it too much to hope that he'll someday get his own game? Maybe the Coles can slip him into *Quest for Glory III: Shadows of Darkness*, their next heroic adventure.

GP



Some heroes might consider this the end of their quest: a harem full of willing young lovelies. Maybe when you've returned Iblis to the Forbidden City...



Oops! Try again — and this time remember that one false move releases the demon.



Germany started World War II with only a handful of modern submarines — so few that, for the first few months of the conflict, Admiral Doenitz could keep only a half-dozen boats at sea at any given time. Within a year, larger numbers of boats, together with improved “wolfpack” tactics, made the U-boats a deadly scourge. In early-to-mid 1943, the height of the U-boat campaign, the Nazi wolves were sinking Allied ships faster than they could be constructed, raising the spectre of starvation in Great Britain. Writing about that period in his memoirs, Winston Churchill later described the U-boat menace as “the only thing that ever really frightened me during the war.”

After the summer of 1943, new technology and improved rates of ship construction tilted the balance increasingly in the Allies’ favor. By the start of 1945, less than half of the submarines that left on patrol ever came back. Germany launched 820 U-boats in the war; 781 were destroyed in action, and 75 percent of their crews were killed.

Nearly 20 years ago, Lothar Buchheim, who voyaged on U-boats as a young war correspondent, wrote a harrowing and only thinly fictional account of U-boat life titled sim-



Action in the Norwegian fjords includes a chance to use your deck gun against shore installations — a nice touch.

Das Boot

WILLIAM R. TROTTER

ply *Das Boot* (*The Boat*). This book is beyond dispute the finest and truest account of submarine warfare in the North Atlantic ever penned. Eight years later, in 1981, the book was adapted into a magnificent film.



The graphics in the main menu are outstanding. If the graphics in the rest of the game matched these, *Das Boot* would be an unqualified success.



The anti-aircraft scenes are exciting — but the tracers could use a more realistic look.

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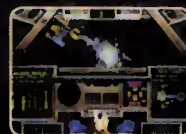
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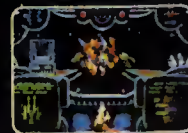
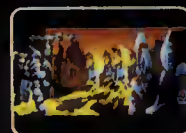
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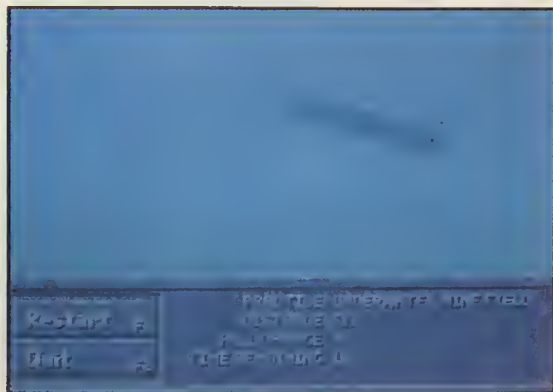
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The conning tower looks more like a visored helmet than an actual conning tower.



If you opt for full historical accuracy, you'll face the same odds a real U-boat skipper would have faced in about 1944.

If you buy a copy of *Three-Sixty's Das Boot* simulation, you get a free copy of Buchheim's novel and a coupon that entitles you to a videocassette of the movie at a very agreeable price. Those are two good reasons, right off the bat, for buying the program.

Beyond that, it must be said that *Das Boot*, the simulation, is a mixture of excellence and shortcomings, and it can only be given a lukewarm recommendation. Its virtues are large, and obviously the product of much care, but they are compromised by a number of irritating flaws that nibble at the edges of the program like hungry fish.

UP 'SCOPE!

There are two main parts to the program. The first is a section of eight Baltic Training Missions. (Since the Russian navy was a negligible force, the Germans considered the Baltic Sea to be virtually a private lake, and conducted elaborate training exercises there with only rare interference from the Allies.) The second part of the program includes a variety of combat missions set in the Norwegian fjords, the Bay of Biscay, the Murmansk convoy routes, and the open seas of the North Atlantic.

On the Introductory difficulty setting, your torpedoes always explode, your boat can rapidly repair itself at sea, and you can use both surface and underwater external views to help you navigate through minefields and avoid depth-charge attacks.

On the Realistic setting, your odds of success are approximately the same as those faced by a real U-boat commander in the middle of World War II — in other words, not very good. Repairs can only be made back at the shipyard, and

you no longer have external camera views. Three-Sixty has opted not to include a "career" mode of play. Given the mortality rate of U-boat skippers from 1943 on, this was probably a sound decision.

Control of the ship is handled — easily with a mouse, in a somewhat complicated fashion with the keyboard — via an information panel at the bottom of the screen. Clicking on the various segments of that panel instantly takes you from the conning tower to the torpedo room to the radio room, and so on. From those locations, you can perform the logical and necessary functions of controlling, navigating, and doing battle with a U-boat.

There's quite a refreshing variety of missions. One thing *Das Boot* does, for instance, that no other computer submarine title even tries is to simulate antiaircraft action. Depending on which model sub you choose to command, you'll have either a single-barreled or double-barreled 20 mm flak cannon mounted on a platform aft of the conning tower. Using your mouse and some fluid wrist action, it's possible to repel a surprise air attack, and even shoot down an occasional plane — even though your preferred choice of action would obviously be to submerge and avoid the planes altogether.

You also have a chance to use your 88 mm deck gun against land targets — something German, Italian, and British submariners did surprisingly often in the Mediterranean and Adriatic campaigns. This is, of course, a very marginal and occasional feature, but it's novel and kind of fun, and is another option that no other sub simulation offers.

Arctic Ocean missions are especially interesting when

you consider that, until now, computer simulations have neglected the Murmansk convoy campaign. The Straits of Gibraltar scenario takes its inspiration directly from the movie of *Das Boot* and is very close to a suicide run. Frustrating as it might be, this scenario is worth playing, though, because it's been staged with a lot of dramatic flair. The British planes dive like hornets out of the pea-soup fog.

Predictably, the open-sea North Atlantic patrols offer the widest variety of possibilities. Included here is a chance to knock off the British carrier *Ark Royal*, which sometimes appears with a startlingly thin escort.

Communication with the Reich, with other U-boats, and with the ungainly but vital "Milch Cow" supply subs is handled in the radio room by means of the famed "Enigma" code machine. It's also possible to intercept enemy transmissions and glean vital information from them, provided you can figure out how to decode them. The instructions on how to do this are needlessly terse, and a short tutorial would be a great help.

CRASH DIVE!

So far, so good. There's nice variety, considerable respect for historical authenticity, and some exciting flak action that no other sub simulation offers.

But there's a curiously unfinished and careless look to some of the details here that work against complete enjoyment. The graphics are occasionally stunning: The moody, murky, underwater views are good enough to be movie stills, and the achingly bright blue and iceberg white of the Arctic missions is quite striking. The animated aircraft zoom and dive with frightening realism, and the sub's interior com-



There's lots of pretty scenery in the Norwegian fjords — but the sub looks strangely flat.



In the radio room, you'll decode messages using the famous Enigma device.



There's a full array of torpedo models — but it's pretty much up to you to figure out how to use them.

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Watch out for enemy ships hiding around the icebergs.



Nine-tenths of Hitler's submarine fleet did not survive the war; which is probably why there is no "career" mode in *Das Boot*.

partments are very realistic in appearance.

Beyond these things, however, the graphics offer a host of disappointments in terms of detail. From some angles in the Overview mode, the U-boat doesn't really look like a U-boat — just a vague cylindrical shape that looks curiously flat and pasted on top of the ocean. It probably wouldn't have been too difficult to add a bow wake to make the sub appear to be in motion. As it is, it too often looks like the boat is standing still and the sea is moving past it.

Maybe we've been spoiled by the gorgeous bit-mapped vessels in *Silent Service II*, but the surface targets are definitely retrograde in appearance — the same old polygons-with-sticks-for-guns we've been seeing for years. Torpedo detonations are wimpy — there are no towering waterspouts or coils of oily flame, just little puffs of smoke that look more like mortar shells exploding. And for some reason, no matter where your torpedo actually hits the target, the explosions always seem to start on the aft end of the ship.

Shell splashes from your deck guns (and those of the enemy) are mere plops — sometimes barely visible. Your 88 mm gun fires almost as fast as an automatic cannon, with no muzzle flash and a black dot of a shell that always comes out of the muzzle crookedly, veering to the left before returning to a plausible trajectory. How much effort and extra programming would it have taken to generate realistic waterspouts?

If you're on the surface and turn the deck gun around so that you're facing the conning tower, what you see is a peculiar sweptback structure that looks more like a visored helmet. It couldn't have required too much extra effort to

have made it look like a real conning tower.

Tracers from the flak guns don't look like tracers at all — they look more like grains of pepper thrown into the sky. Again, an effort toward realism would have gone a long way toward making the game more convincing.

When and how to set the range for your torpedoes is not clearly explained, and should not even be necessary if you're firing torpedoes that explode on contact. The uses and tactical advantages of looping and acoustic torpedoes are alluded to, but not explained with enough clarity for the player to feel confident about using them.

At this writing, there is only one other U-boat simulation on the market from a major game company: Broderbund's *Wolfpack*. Overall, *Das Boot* has a stronger feeling of authenticity in its missions, its challenges, and many of its operational systems. But in terms of graphics and cinematic realism, *Wolfpack* is far superior. If you could somehow combine the best qualities of both games, you would have a terrific simulation.

GP

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ALTERNATE LIVES

NEIL RANDALL

WIZARDRY: A NEW LOOK FOR THE '90S

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PIE 8				SWORD			
VIT 11		STM 108/		AXE			
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SPD 8		BONUS 0		POLE & STAFF			
PER 8				THROWING			
KAR 12				SLING			
				BOWS			
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ASSIGN INITIAL SKILL BONUS -- ADJUSTS SKILL ↑↓ SELECTS SKILL PRESS FOR NEXT CATEGORY							



This party needs another member. We're about to add one here from the Master Options screen.

The truly interesting races, however, are the more unusual ones. Faeries aren't very useful in a fistfight, but they're extremely difficult to hit and very adept at magic. Lizardmen are unintelligent, but they're great to have around as fighters. Dragons are good warriors or rangers, and they can exhale acid in combat. Both Felpurrs (of the feline race) and Rawulfs (representing the canine species) have their special abilities. Finally, mooks are strong and intelligent, and look like shag carpets on legs—they're fun to have around.

While *Bane of the Cosmic Forge* makes use of standard FRP professions such as fighter, mage, thief, and ranger, characters in this game can also become alchemists, bards, psionics, valkyries, bishops, lords, and ninjas. Alchemists can make use of the wide range of potions you'll find, while lords are similar to the paladins found frequently in other FRP games. Bishops are super-priests, and valkyries are female warrior-priests. You'll want to upgrade characters to greater professions as soon as possible or, even better, stay with the character-creation process until you get the professions you want.

Most action in the game is achieved by selecting options from menus. When you encounter a monster, for example, the battle or interaction menus appear, and you can assign different tasks to different members of your party. At any other point in the game, you can press the Enter key and bring up another menu, which allows you to cast spells, equip characters, use items, search rooms, open doors (by either bashing them in or picking the lock), and save games. You can save multiple games only by assigning each

game to a different directory—this is a minor annoyance.

Another more frustrating annoyance is the game's system of copy protection. Previous Wizardry games used a key-disk method of copy protection—you had to play the game with the original master disk in a drive or you couldn't play at all. *Cosmic Forge* uses a different method: You install the game on your hard drive, but each time you start the game you must find a three-symbol code in a small booklet which uses the black-ink-on-dark-brown-paper scheme that's become so popular lately. Because of the sheer number of codes here, this booklet is especially difficult to use. Not only that, but some of the codes are simply incorrect. Two wrong tries and you're kicked back out to DOS. If you know you typed in the correct code, it's even more frustrating.

More important, though, are problems with the fundamentals of the Wizardry series itself. As the granddaddy of the computer role-playing systems, Wizardry established a number of patterns that remain with us nearly a full decade later. First, experience points and wealth are gained almost exclusively by destroying monsters. Second, the game revolves around puzzles: You must, in effect, push a different series of buttons in precisely the right order to get into certain rooms or make particular items appear. And you must guess, or somehow learn, the right words to say to the right characters, often with little external guidance. Play becomes extremely repetitious after a while, especially when you seem unable to make any progress.

Cosmic Forge improves the Wizardry experience in a couple of important ways. First, you don't have to send your characters off for training in order to raise their experience and skill levels. Instead, the game presents you with an upgrade screen as soon as you've achieved enough experience. Furthermore, you can assign skill points as you wish, specializing your character or branching him out into additional skill areas.

Second—and this is the most obvious change—the graphics in *Cosmic Forge* are far better than those in any previous Wizardry game. The walls and doors look crisp and imposing, and all the steel grates have keyholes that actually encourage exploration. The graphics are EGA, not VGA, a point that becomes instantly apparent when you see the monster portraits (which are the weakest graphic treatments



As in all fantasy role-playing games, a set of stairs leading downward portends something ominous.

in the game). But even with the new graphics being EGA only, the improvement over earlier Wizardry games is dramatic.

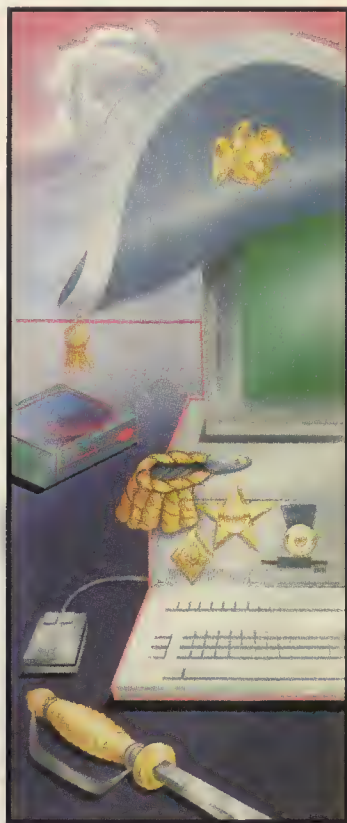
At the start of this column, I said that the newest installment in both the Wizardry and the Ultima series represented a welcome but not perfect improvement. In the next volume, the seventh for each series, the designers for both systems should strive to rethink some of their basic assumptions: In the case of Ultima, the games should become less sprawling and more plot-intensive, while in the case of Wizardry, the Dungeons-and-Dragons/experience-treasure link should be de-emphasized in favor of more satisfying means of improving skills.

Both series have legions of fans, and the fact that they've recast themselves for the '90s is a very welcome sign. In the case of Wizardry, it signals the start of what looks to be another fine decade.



This character, Ankra, needs a weapon. He plans to use some of his 2021 gold pieces to buy a halberd.

GP



THE DESKTOP GENERAL

WILLIAM R. TROTTER

REFLECTIONS ON A VIDEOGAME WAR

"You cannot qualify war in harsher terms than I will. War is cruelty, and you cannot refine it." — General William T. Sherman to the mayor of Atlanta, 8/12/1864

As I write this column, the cease-fire in the Persian Gulf War is about ten hours old. Military history has been made, a new catchphrase has entered the vernacular ("The Mother of All ____" — you fill in the blank), and war game enthusiasts have a lot to think about.

During the long, grinding days of the aerial campaign against Iraq, when hard news was scarce and there was plenty of air time to fill, news organizations ran lots of interviews with publishers of war games and simulations. Such half-fascinated, half-reproachful public scrutiny was something new to the war game industry. During the Vietnam conflict, board games were the only milieu for war game aficionados. The relatively small number of folks who enjoyed this hobby were regarded as nerdy eccentrics, perhaps one rung up the evolutionary ladder from Trekkies. Besides that, the Vietnam War itself was shaped by so many intangibles that it translated poorly to war games.

Computer games were in their infancy during the

Falklands War, and the one board game that was rushed to market during the conflict was slapdash and boring — although it's now something of a collectors' item.

But the Persian Gulf War was different: Any number of polished, sophisticated board games set in that region were already on the market, ready to be upgraded with "Desert Shield" modules and rule books, and most of the high-tech weapons deployed by the Coalition were already the subjects of high-tech computer simulations. (Or *low-tech*, for that matter: The first time I saw footage of Scuds being intercepted by Patriots, all I could think was, "It looks just like *Missile Command!*")

Before the first shot was fired, thousands of PC owners had flown A-10s and F-16s commanded platoons of Abrams tanks, perhaps even skippered an Aegis cruiser. The hours spent with these simulations had given many hobbyists considerable insight into both the capabilities and the limitations of these killing machines. Neither the accuracy nor the deadliness of the weapons systems came as a surprise to experienced computer gamers.

The inference to be drawn from most of the media coverage of war gaming, predictably, was that the entertainment

value of such simulations desensitized people to the reality of war. The unspoken conclusion of many media features was that the folks who design and market war games and military simulations are engaged in a morally questionable occupation.

I submit that experienced war gamers are probably more aware than the general civilian populace of both the human and financial *costs* of war. Those who design war games, and most of those who play them, have a profound respect for history. They tend to be voracious readers, so they know in some detail what the inside of a Civil War field hospital looked like, for example, and what the casualty figures were for the first week of Verdun or for the firebombing of Dresden. Whether or not they've actually heard an angry shot, they at least know intellectually the stark truth of General Sherman's dictum. In my mind, there exists today no greater educational tool for expanding historical literacy than a good computer simulation.

Furthermore, today's computer simulations have become quite successful at recreating the pressures and complexities of decision-making in a modern battlefield environment. Those who play them are, I submit, better quali-

fied to judge the performance of our military commanders than any previous generation of Americans.

That can only be to the good. The more we (as a people) understand exactly what generals and admirals *do*, the more likely we are to entrust those awesome responsibilities to leaders who are professionals rather than zealots.

Clearly, the officers who planned and conducted Desert Storm *were* such professionals, for nowhere in military history is there a comparison to this stunningly lopsided victory. Dare one call it The Mother of All Envelopments?

And therein lies a certain powerful irony for wargamers.

For all the attention paid by the media to Desert Shield war games, the actual ground campaign has turned out to be a very iffy subject for a computer simulation. There can be no question about the historical magnitude of this battle: Like Waterloo or Gettysburg or Dien Bien Phu, it was one of those engagements that alters profoundly, for good or evil, the course of all future events.

But unlike Waterloo or Gettysburg, it wasn't even close. What's a war gamer to do now that the victory has been won? Try to plan a better campaign than Schwarzkopf and his staff? What hubris even to try! Well, then, maybe you could war-game it from the

other side and see if you can do better than Saddam Hussein and his generals....

Game designers will, of course, eventually find ways to tweak the variables, the possibilities, and the alternatives — and Desert Storm will be refought intensely on thousands of computer monitors. From all those might-have-beens may come valuable insights, for, in the space of about a month, the world has seen a new and stunningly destructive method of waging non-nuclear war, and we game players may just have to find commensurately innovative ways of simulating such conflicts.

ART BY NOSTRADAMUS?



Anyone here look familiar? We'd like to know more about the inspiration of the artist who did this war game box cover back in 1985.

War gamers are always tinkering with future history as well as the past, of course, but it seems that when Milton Bradley published the board game *Fortress America*, the people who rendered the box art must have been gazing into a powerful crystal ball.

Fortress America lets you play out a scenario more or less along the lines of the movie *Red Dawn*, in which the continental U.S. is invaded in the late 1990s by an alliance of Soviet, Asian, and Central American foes.

On the box, the dominant

figure on the bad guys' side, looming beneath a Hind gunship and obviously the symbolic leader of the rapacious invaders, bears an incredible likeness to a certain Iraqi dictator.

The spooky thing is that *Fortress America* was designed in 1985, long before most Americans knew much about Saddam Hussein and during the time when Saddam was a *de facto* friend of the U.S., thanks to his long war with Iran.

Milton Bradley's game division is now part of Hasbro, and as of press time we had not

been able to find anyone who could tell us how this astounding bit of precognition came to be. Was it sheer coincidence, or did somebody in Milton Bradley's art department have a premonition?

Milton Bradley told us that *Fortress America* is no longer being actively marketed, so interested collectors are hereby advised to head for the local Toys 'R' Us while there are still a few of these remarkable specimens available.

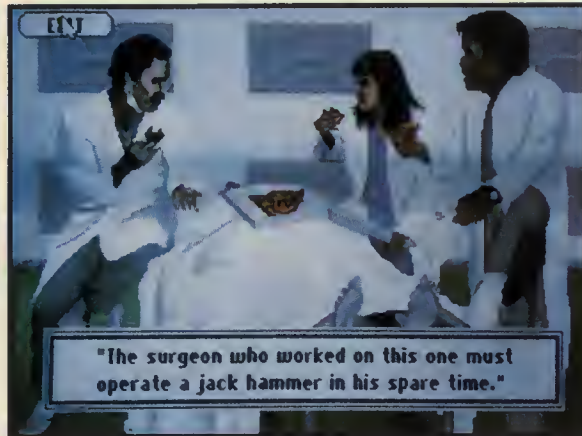
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VIRTUAL REALITY

ARLAN R. LEVITAN

SUTURE SELF

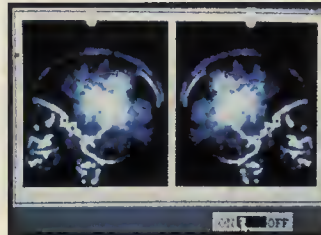


Whosays that those you minister to are ungrateful wretches? Here, the surgical team has a quick meal on one of your patients.

Several years ago, Software Toolworks shook up the microcomputer scene with *Life & Death*, a medical simulation that allowed armchair interns to diagnose and operate on patients suffering from a variety of abdominal disorders. *Life and Death* created quite a stir when it was released. Its concept, while admittedly not catering to the tastes of the mass market, was undeniably innovative.

Those who had the stomach to enjoy the original are likely to let the sequel go to their heads. *Life and Death II - The Brain* attempts to turn those with sturdy constitutions and unflagging persistence into qualified computer brain surgeons. Although it may not be everyone's cup of barium, *Life and Death II* markedly improves on its forerunner, with better graphics, sound, and depth of play.

Forget about the lurid, violent action depicted in the ads for today's shoot-em-ups and dungeon quests. The packaging for *Life and Death II*, which features a surgically



This skull X-ray of a patient reveals nothing amiss—you'll have to conduct other tests before making your diagnosis.

gloved hand clutching a slimy pink brain, wins my vote for most gruesome cover art of the year.

The fundamental concept of *Life and Death II* is pretty much the same as that of the original. As a resident first-year neurosurgeon at Toolworks General Hospital, you examine patients, diagnose their symptoms, and if necessary, go tip-toeing through their innards with various sharp, pointed implements.

Mastering the diagnostic process is simple enough. Before proceeding with your examination, a glance at a clipboard outlines why the patient was admitted, and occasionally

provides information that can keep you from ordering potentially dangerous tests. For example, you quickly learn that it's not a good idea to expose patients with pacemakers to strong magnetic fields.

The head, upper torso, and legs are all graphically displayed so you can examine them for normal reflex reactions, muscular weakness, and sensitivity to pain. (Don't forget to also check your patient's clarity of speech and pupillary action.) Fortunately, the results of these exams are recorded automatically for you.

Following the physical exam, run a few lab tests to aid you in your analysis. After your choice of a series of skull x-rays, CAT scans, Magnetic Resonance Imaging, and angiographies, it's time to put your patient's life on the line with your diagnosis and suggested treatment. If there's some doubt, a quick glance at your online neurology text can help you zero in on the likely ailment.

As is often the case in real life, the diagnostic process be-

comes rote and rather mundane after a short while. There's a reasonable amount of variation in patient symptoms, but there's less than a dozen actual conditions that you're looking for. Drug abusers, schizophrenics, and hysterics invariably get shipped to a shrink. Migraine sufferers get a prescription for codeine, stroke victims

are assigned physical therapy, and minor nerve inflammation (neuropathy) calls for simple exercise. Those with subdural hematomas, aneurysms, and brain tumors are wheeled to the operating room to await your surgical ministrations.

Before attempting an operation, a trip to *Life and Death II*'s classroom is mandatory, since surgical procedures are not covered in the program's sparse 16-page manual. In fact, there's little likelihood that your patient will survive surgery unless you make written notes of the on-screen surgical tutorial, since it's not available once you're in the operating room. For example, the simplest operation, treating a subdural hematoma, typically requires more than 30 thirty steps, which must be performed in the proper order.

Surgery is not a place for those with weak stomachs or shaky hands. In the operating room, *Life and Death II*'s 256-color VGA graphics and sound effects can be disconcertingly realistic. Once your initial queasiness subsides, though, you'll be moving from scalpel to Rainey's clip with ease, and won't even bat an eye as you drill into your patient's skull. Even if you get the procedures down pat, you've got to monitor patient's heart functions, blood pressure, urine retention, and blood gas level. Crises in any critical function must be tended to quickly or your patient won't be around to sign all those insurance forms.

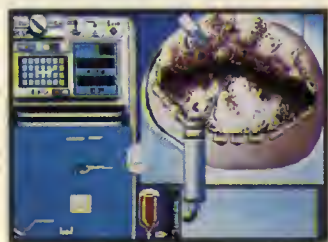
At higher levels of play, almost anything that can go wrong does, making success-



No, this isn't Kirstie Allie in a remake of "Star Trek: The Motionless Picture." It's a typical pre-surgery scene.

ful completion of a procedure even more difficult. Those with truly masochistic tendencies can also elect to play at the nearly impossible "nightmare" level.

You're not completely on your own in the operating room. Your assistants, who you select before the operation, can offer helpful hints during the course of the surgery. If you're playing at any level above novice, greater care must be exercised in choosing your operating team, since their personal expertise and relationships with one another can affect their



Here's one of Dr. Levitan's more open-minded patients.

efficiency under pressure.

There's a great deal of satisfaction in successfully completing an operation in *Life and Death II*, but I would have written into the simulation a more emotional payoff than a slap on the back from your peers. Patients don't come back to thank you (or, for that matter, complain). Everyone you work with may be hostile to or romantically entangled with someone else on the staff, but apparently you're either too tired, principled, or homely to think about getting involved.

The diagnostic process is understandably repetitive, but is far more boring than it need be. You can examine hundreds

of patients in the course of a game, but you only see a handful of different faces. Are these different patients or professional hypochondriacs? Test results for patients suffering from the same symptoms are exactly alike. I suppose if you've seen one intercranial aneurysm, you've seen 'em all.

Although the install program for *Life and Death II*

contains an option for putting the simulation onto floppy disks, doing so is about as practical as removing your own brain tumor. When installed on a hard drive and configured for optimal smoothness of play, the program takes up almost five megabytes of space. Software Toolworks also advises against scrubbing for surgery if your machine is anything less than a 12-MHz PC/AT.

The manual, brief as it may be, contains one of the most peculiar disclaimers in entertainment software history:

"WARNING...*Life and Death II* is a game for fun, not education....No representation or warranty is made that any statement, diagram, or image is accurate as a fact or valid as an opinion concerning any anatomical, medical, surgical or health matter. UNDER NO CIRCUMSTANCES should any person rely upon or be influenced by these materials in making any health-related decision...."

Rats! So much for claiming that success at *L&D II* qualifies me for waltzing around inside my comrade's craniums with a Ginsu.

In spite of those words of warning, I'm willing to testify before any motherboard of inquiry that *Life & Death II - The Brain* is grossly entertaining and educational. Oh well, I suppose if the disclaimer hadn't been included, I'd have ended up reviewing *Life & Death III - The Malpractice Suit*.

GP

BERLIN 1948

GARY MEREDITH

The years immediately following World War II were not kind ones for Europe. Rebuilding after the war's devastation was hampered not only by the sheer magnitude of the damage, but also by the new and insidious competition between the newly crowned superpowers for control of continental Europe. Although troublespots flared in several nations, the focus of this new "cold" war seemed to be squarely on the former capital of the would-be Thousand-Year Reich, Berlin.

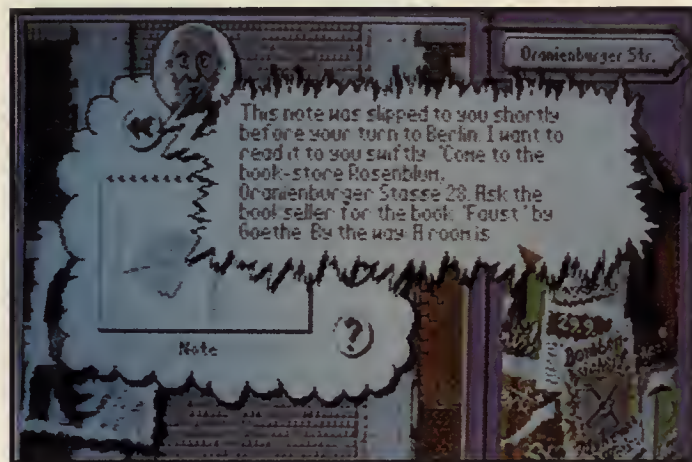
Divided into four sectors — as was the entire nation of Germany — controlled by England, France, the United States, and the Soviet Union, Berlin was fast becoming a powder keg. In 1948, the Soviets imposed a blockade on the city. The United States short-circuited what could have been the start of another World War by airlifting supplies into the city, but the tensions, and the intrigues fostered by those tensions, remained to smolder.



If you'd like to be clued in on the events which took place prior to your arrival in Berlin, just settle back and let the newsreel and your CIA contact fill you in.

This is the situation as you enter the world of international espionage in *Berlin 1948* from Electronic Zoo.

As a new arrival standing outside Tempelhof Airport, you, CIA agent Sam Porter, consider the mission which lies ahead. After the war, the U.S., fearing a confrontation with the Soviets, shipped nearly its entire nuclear arsenal to Britain. One bomb, however, has been stolen and moved to Berlin by a Colonel Harris, who is allegedly working for the Soviets. It's up to you to infiltrate the shadowy world of deception and double-dealing in Berlin, find the bomb, and disarm it. You'll be mostly



After arriving in Berlin, check your inventory to make sure you're armed and that you have some cash. And be sure to read the note you find — you won't get very far without knowing what's in it.

on your own, relying on your wits and what scraps of information you can uncover. Be forewarned, however. Many of the things you see and hear in Berlin are illusory at best.

The first thing you should do is check your inventory. One of the items in your possession is a note that gives you instructions on how to proceed after leaving the airport. You can walk to most of your destinations, but you'll be better off taking a taxi. You can either wait until a cab comes along, or use one of the many call boxes located throughout the city to summon one. Either way, you'll have to make the driver stop by walking out in front of his cab. When it stops, click on the taxi and you'll be taken to a map screen where you can specify your destination.

Your first visit should be to the book shop, where you'll be provided with a fake identity and any information CIA operatives have managed to unearth since your last contact with the agency. Much to your surprise, you discover that Colonel Harris is working not

for the Soviets, but for an ultra-secret organization known as SERVA. SERVA plans to destabilize all of Europe by using the stolen bomb as a bargaining chip against the Soviets and the Americans.

From this point on, you must constantly be on guard. SERVA knows that someone will be coming for the bomb, so you can count on a very unpleasant welcome. Don't dwell on that thought too much, though, because you're still a long way from figuring out just where the bomb is. By talking with everyone you meet, trading cash and cigarettes for information, and then piecing together the few bits of knowledge you've acquired, you may be able to pinpoint the location of the bomb and render it harmless.

Berlin 1948 does a fine job of portraying the bleak, ashen world of postwar Germany. (If you've seen the movie *The Third Man*, you'll have a good idea of the game's ambience.) Images of gray, rainy cobblestone streets and shadowy storefronts set the game's mood. The intro-

ductory sequence is especially well-done: Rainbow Arts, the group that developed the game for Electronic Zoo, created a clever system that uses both digitized newsreel footage and an audio cassette (included in the game package). These are synchronized to provide a historical overview of events leading up to the situation in Berlin. The game has a distinctly European flavor — not surprising, since Rainbow Arts is a European development team.

The look and feel of *Berlin*

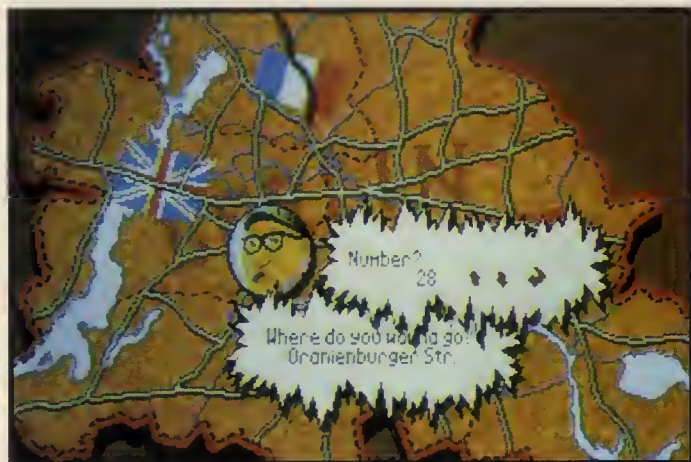
1948 is unlike that of any other game. The graphics are colorful and well-designed, though the overhead view of the city streets can be a bit confusing. Many players will run into some problems, however, with the game's totally icon-based interface.

Problems arise as you chain icons together to ask even simple questions. When you meet someone, for example, you must first click on that person's image, which reveals a silhouette with a microphone

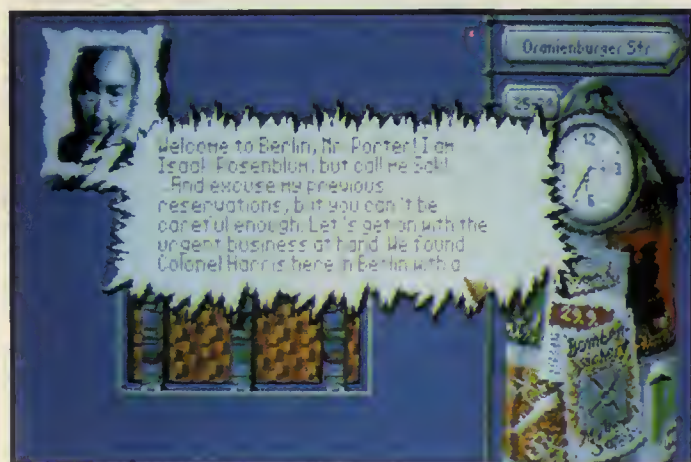
icon. You then click on the microphone icon to bring up a main conversation menu, which contains icons for talking about people, things, places, or the date and time. After you've decided what to ask about, click on the appropriate icon and you'll get yet another sub-screen. Here you can scroll through different item names and click on whatever or whoever you want to talk about. Do this and another screen pops up. Again you click on the subject of your conversation, and indicate whether you're asking a question or making a statement.

You must follow this procedure throughout each and every conversation. I suspect that the real reason the designers opted for this complex icon-based interface, rather than a text parser or a simplified text-based menu interface, is because the game was intended for an international market. Using a mouse, I found it to be very frustrating — so far, I haven't found the courage to try playing with just the keyboard.

Berlin 1948, then, poses a real dilemma for this reviewer. On one hand, it's a graphically attractive game; it has much more than a passing thought given to plot; and it has historical merit, offering a look at the origins of the Cold War. On the other hand — and this is a rather significant drawback — it is a devilishly frustrating game to play because of the interface. But if you've got the time and the patience, *Berlin 1948* is a fascinating game.



With all the problems in postwar Berlin, walking is not always the best way to get around. Taxis are plentiful, though, and can quickly take you anywhere in the city.



After reading the note, you know that Isaac has what you need — namely some fake identification papers and a new lead on Colonel Harris and the missing bomb.

Hardware requirements:
640K minimum memory;
VGA, EGA, CGA, or Tandy
16-color graphics; mouse
recommended.

GP

CONTINUUM

GARY MEREDITH

Has a computer game ever given you an attack of acrophobia? Probably never, right? After all, even with the best Super VGA graphics, nobody with a fear of heights is going to experience the terror of real acrophobia just by playing a PC game. But who knows? The next generation of software may have to carry warning labels.

While realistic rendering of form, shading, and color has been achieved successfully in a number of games, even these efforts fall short of giving a sense of depth and perspective to a flat computer screen. *Continuum* won't win any awards for mimicking real-world forms, but the three-dimensional world so wonderfully created by the game's design team will knock you for a loop.

Continuum probably offers more "oh, wows" per byte than any game in the past year. The sense of actually being within a computer world has never been stronger. The graphics are almost painfully simple, but what Data East has managed to do with them is anything but simple. You start in one of more than 250 rooms, controlling a craft called a mobile. It can't actually fly, but it can bounce quite well. By using the floating platforms, you pogo your way across to the doorway and then to the next room. It sounds pretty easy, but you'll probably think otherwise about 30 seconds into the game.

The key to success in the game is in finding the right viewpoint from which to play. One of the marvelous things about *Continuum* is the ability to vary your viewpoint, much in the way you would using a camcorder or movie camera. The viewing angle is infinitely variable, from almost directly under your mobile (the floor

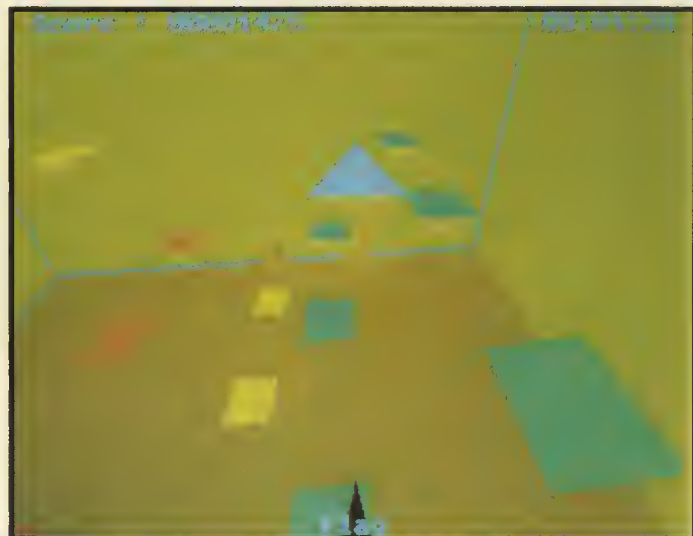
becomes transparent once you go below its level) to directly above. A very high viewing angle is best in most cases, since it allows you to see not only your mobile, but its shadow as well. If you can see your shadow on a target platform,



The route to the door out of this room looks fairly straightforward. You can gain extra time by getting out quickly, but don't forget to grab the cube floating just in front of and above the exit.



The name of this room may be Welcome, but you probably won't feel that way once time begins to run out. Remember that the easiest route may not always be the best one.



After some experimenting, you'll probably discover that this view from about 30° above your mobile allows you a good view of the room in front of you as well as a view of your mobile's shadow.

then you can be assured that the mobile will hit the platform. If you really want to drive yourself crazy, you can try the game with the viewpoint from inside the mobile. It's almost impossible to play this way, but the perspective is stunning.

If you choose to play in the action mode, you'll have a limited time to get through each room. You can pick up bonus time for quickly negotiating a room, and there are certain items you can acquire that will also increase your time limit. Of course, in the action mode, you're not just there to see the sights. You must find and grab 16 crystals and 16 keys scattered among the 250 rooms inside to complete the game. Some of the objects are quite accessible, but others are shielded by implacable guard cubes that you must maneuver around to gain your prize.

For those taken by the game's sense of depth, there's the emotion mode. Although there's no time limit here, that's not to say there's no frustration. Some of these rooms are diabolically difficult. Fortunately, there's a Memorize feature that lets you save your last position, so you won't have to start at the beginning should you meet with a sudden disaster. Obstacles include the aforementioned guard cubes, as well as force fields, energy drains, and various surreal critters whose only purpose is to make life as difficult as possible for you.

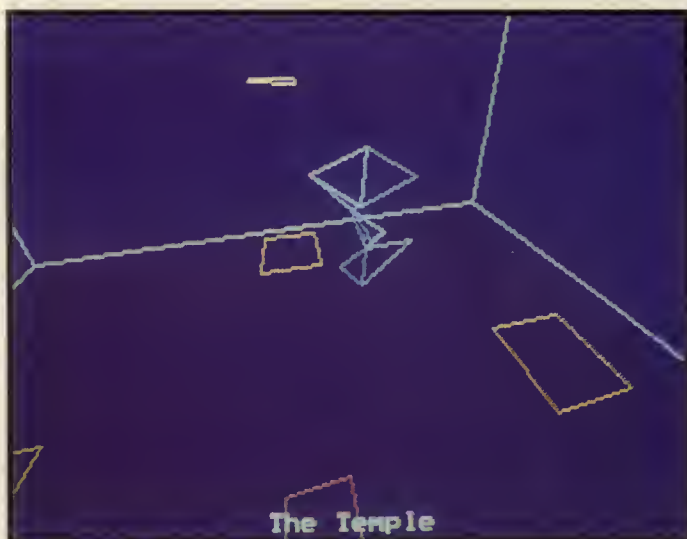
Continuum is just plain fun—I don't know how I can say it any better. It's not often that you come across a game so enjoyable to play that you don't care whether you win or lose. Even *Tetris*, addictive as it is, retains enough potential for frustration to drive one to desperate acts. In *Continuum*,

though, you win even when you don't win. You just bounce through a strange new world, enjoying the scenery as you go.

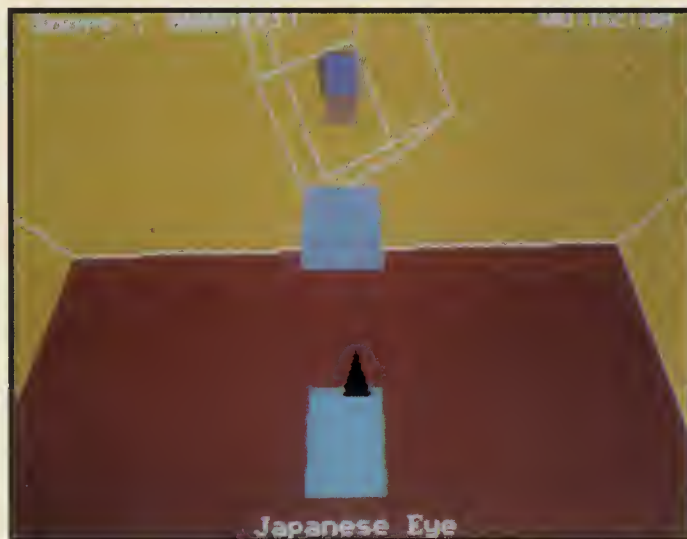
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One of the best features of *Continuum* is the ability to radically change the viewing angle. This view from underneath the mobile is useful when you're having trouble locating doors and other objects at higher levels.



The color schemes of some rooms may make it difficult for you to pick out certain platforms. If you do have problems, you can change the filled-polygon images to wire-forms.



If you really want to give your brain a couple of good twists, use the first-person perspective from within the mobile. It won't take long to realize that playing from this perspective could easily lead to insanity.

Hardware requirements: 512K minimum memory; 10 Mhz or faster machine recommended; VGA, EGA, CGA, Hercules, and Tandy 16-color graphics; joystick optional; AdLib, Sound-Blaster, and Tandy 3-voice sound supported.

DRAGON LORD

GARY MEREDITH

As a Dragonmaster, you're not out to win any awards for popularity. After all, you and your two ambitious counterparts have kept the region of Anrea around Dwarf Mountain in a constant state of chaos these many years. Raiding other villages and taxing your people to finance those raids haven't exactly made you a saint in anyone's mind. Now, the Great Lords have offered immortality to the Dragonmaster who can find and reassemble the pieces of the Magic Talisman. With that sort of prize in your sights, you'll expend all of your resources, and then some, to win. Those sniveling, whining, loutish subjects of yours will end up looking back on their existence up to now as a true golden age.

In *Dragon Lord*, from Cinemaware, you become one of the three Dragonmasters — Bachim the Alchemist, Oureod the She-Vampire, or Ametrin the Green Beast (sounds like a lovable trio, doesn't it?). The remaining two Dragonmasters can be played by one or two human players or by the computer. As a Dragonmaster, you're mainly concerned with breeding dragons and then using them to conquer other villages. And, of course, you must hunt for the pieces of the Magic Talisman.

You start out with one dragon, but you'll need quite a few more before you can hope to succeed. It seems that in their infinite wisdom, the so-called Great Lords made the pieces of the Magic Talisman invisible to all but dragon eyes. On top of that, once a piece of the Talisman has been found, a dragon must be left to guard it. So, you'll need a minimum of three dragons. In fact, after attrition from the various battles, you'll

probably need considerably more than three. That's where the incubation room comes in.

Each Dragonmaster is allotted 20 dragon eggs, which must be incubated and hatched (although one look at these eggs and the possibility of a world-record omelet might cross your mind). Since you're going against two ruthless and ambitious opponents who'll be certain to hatch as many dragons as they can, your first duty should be to fill up all four spaces in the incubation room. Here, you can determine how strong and how skilled a particular dragon will be.

It usually takes several months to hatch an egg, but you can speed up the process by increasing the heat. There is a downside to this tactic, however. First, extra heat costs extra money, and you're not exactly rolling in cash at the start of the game. More importantly, a dragon that's undergone an express incubation will be considerably weaker than one of its brethren brought to term



Here are three faces even a mother would have trouble loving. Since every Dragonmaster starts out with the same resources, it really doesn't matter which character you choose.

normally. It's best to fortify the one dragon you have so that you can begin collecting taxes from vanquished villages while your eggs slowly incubate.

You can influence the dragon's abilities by casting various spells while it's still in the egg. Spells for size, strength, speed, mental power, and resistance are available and should be used in combination to produce a well-rounded dragon. You can also cast spells on your dragons after they've hatched from their eggs. For example, you'll probably want at least one dragon with much better than average eyesight,



The humidity is so high in the incubation room that you almost feel as though you're drinking the air rather than breathing it. It's a good environment, however, for hatching dragon eggs.

should the search for the Talisman come down to scouring the open countryside (you can't assume that the pieces of the Talisman will always be conveniently located in a town or village). Just remember to note the side effects of a spell. In this case, better eyesight also means a drowsy dragon.

Once a dragon is hatched, it must be named before it can be sent out on a mission. You can send the dragon out alone by simply setting its zeal level. If you're feeling a bit jaded, however, you might want to go with it on a training mission and direct the attack yourself. This offers a nice view as you sit on your dragon's back, watching as he rakes an unfortunate village below with his fiery breath. It's not the most effective way to subdue a village, though. You're just not likely to be as skilled at attack as your dragon unless you really shortchanged it during the incubation period.

Your spells aren't limited to just the dragons in your em-

ploy. With the right ingredients, you can affect entire villages, as well as the other Dragonmasters. One effective tactic for raising money is to take over several small villages, then use your spells to increase the population. With a low tax rate and your spells, you can build up a large tax base, then slowly increase the taxes until the village's resistance rate is just below 50%.

The game's designers have made calling up the right information at the right time a simple matter. The Library, for example, displays three books which not only show you exactly what's going on in your own domain, but also relate the current events for all of Anrea. Knowing where the other Dragonmasters are operating is helpful since it allows you to avoid major conflicts with them until your power has sufficiently grown. *Dragon Lord* also imparts all the scenarios involving your dragons and their conquests with some beautiful graphics. This is one of the most

attractive role-playing adventures yet. The gorgeous screens allow you to almost feel the oppressive heat of the Incubation Room and smell the strange effluvia from the bubbling flasks in the Spell Laboratory. Even the game interface — in many games a drab array of icons — is fun to use because of the excellent graphics.

While some may quibble with the idea of taking on the



As befits the evil aggressor that you are, you go after the weak, defenseless villages first so you can build up a large population of semi-devoted taxpayers. They don't have to love you, but you'll take in more money if they don't totally despise you.

persona of what most people would consider a dirty rotten scoundrel, many game players will realize that this is indeed a small price to pay for having a good time with *Dragon Lord*. The focus on raising a brood of dragons is a nice touch, even if most parenting manuals never include such useful procedures as razing a village or ripping the throat out of an enemy dragon. So hide your scruples for a couple of hours and check to see if there are any dragon eggs in the pantry.

GP



By casting your spells wisely, you can modify your dragons to fit your particular game strategy. Just remember to create at least one dragon with really good eyesight.

Hardware requirements: 512K minimum memory; VGA EGA, CGA, Hercules, and Tandy 16-color graphics; hard drive recommended; joystick and mouse optional; AdLib sound board supported.

LINKS

BRIAN CARROLL

No sport may be better suited to computer simulation than golf. Since golf is an individual sport, programmers have to simulate only one action, which allows them to focus more attention and greater memory on graphic detail. There is no better example of this than *Links*, winner of a 1990 GAME PLAYER's PC Excellence Award.

The game, which runs only on VGA or MCGA systems, uses a palette of 256 colors to paint a golf course that's more



A three-dimensional grid will show you where and to what degree the greens slope.

realistic than any you've seen on a PC before. The detail is simply amazing, showing you everything from a city skyline in the

distance to ball washers and park benches.

But we don't buy golf games for aesthetics—we buy them to play golf. Who cares about pretty pictures if the game play doesn't back them up, right? Fortunately, the programmers at Access have made sure that the action is as smooth as the visuals. It won't take much practice time before the overall feel of *Links* becomes as comfortable to you as a well-worn leather golf glove.

Links also offers PC duffers a degree of control that's almost impossible to achieve, at least consistently, out there on a real course. The placement, bounce, and roll of the ball are determined by the club used, the strength and angle of your swing, your stance, wind direction, and the contours of the course. While you obviously can't control the wind direction or the game course's characteristics, you have a great deal



The "Swing Panel" displays an amazing amount of data, as well as a wide range of options.

of latitude when it comes to the mechanics of your swing.

In addition to your choice of clubs, you can adjust your stance, take a few practice shots, and even draw or fade your shot. If you're not happy with the result, take a mulligan. If you're still not satisfied, take another. You can repeat any shot from the same location and under the same conditions as many times as you like. Besides being an excellent learning tool, mulligans can quickly deflate your score. There is a catch, however. Mulligans are recorded and displayed on your scorecard for all to see.

Another reason for the excellent game play is the minutely detailed course and its realistic effect on play. The flight and impact of the ball obey the laws of physics. For example, if your ball hits the side of a hill, it will bounce and roll like a real ball hitting a real hillside. It also means that after launching a 300-yard missile right down the middle of the fairway, you'll experience a sense of exultation that almost equals the feeling of having accomplished such a feat on a real course.

Achieving this high level of authenticity and realism is plainly not an accident. To produce *Links*, the folks at Access

say they took more than 500 photographs of Torrey Pines Municipal golf course in San Diego, videotaped the entire course, studied topographical and grading charts, and collected data on the area's wind and weather conditions.

The game player, too, pays a price for *Links*' sophistication. Unless you own a very fast system — a 386 running at 33 MHz, for example — you'll have to wait during play while the 640K of required memory goes to work painting all of that magnificent scenery. This may frustrate you, especially if you're used to faster-paced games. But you'll probably find the high resolution well worth the delay. After all, at least you're not backed up behind a foursome of beginners.

The mechanics of play aren't much different than those in previous PC golf simulations. The most notable deviation is the treatment of the swing. The popular power bar, which appears in most golf games, has been replaced with a swing indicator in the shape of the letter "C." A yellow band at the highest point on the "C" represents the ideal release point to begin a normal downswing. A green band at the lowest point on the indicator represents the perfect point to make contact

with the ball; it determines your timing.

Press and hold the mouse button or your keyboard space bar to begin your backswing. Release the button to begin your downswing and sets the power level for the stroke. A second click near the green band will launch your shot.

If you release your button or space bar in the overswing area (a red zone at the top of the indicator) you can get some extra power. However, miss the green mark at the bottom and you'll have to pay a heavier price for the error than if you had used a normal swing. It shouldn't take long to get used to the effects of underswinging and overswinging. If you're used to a power bar, however, using this "C"-shaped indicator will initially take quite an adjustment.

Putting, golf's most difficult skill to master, is also the greatest challenge in *Links*. Depending on the frequency and severity of the breaks in each green, even slight misadjustments in lining up your putt can produce some very undesirable and unexpected results. Adding to your difficulties is the fact that the swing for putting is different than the other swings in the game. It's not necessary to press the button or space bar a second time to make contact with the ball. First-time players should either pay a visit to the practice green or use the mulligan option until the putting stroke becomes second nature.

To help you read the breaks and contours of each green, you can request that a grid be laid over the green. Although this option can be used anywhere on the course, it's most helpful when putting. In fact, it's almost essential for long or medium putts.



Torrey Pines, home to the Shearson Lehman Hutton Open, is recreated in minute detail. On the fourth hole, you can see the Pacific Ocean.



Links gives you six different types of swings for each club in your bag except the putter. This golfer is about to try chipping, a smart tactic close to the green.

The combination of consistent realistic game play and the high degree of control players have over their shots produces exactly what every computer golf hacker dreams of: the possibility of consistently accomplishing the improbable in a very authentic environment. With *Links*, you can regularly play sub-par golf in conditions that effectively simulate the real world. And with the aid of mulligans, even rounds in the 50s are within reach.

Access has anticipated one criticism of the *Links* golf package by promising to release new course disks — containing both real and imaginary courses — every six to eight weeks. The company plans to release tournament versions and an architect programming disk for designing your own championship golf course. Plenty of gamers should be excited at the possibility of having all that graphic potential at their disposal.

GP

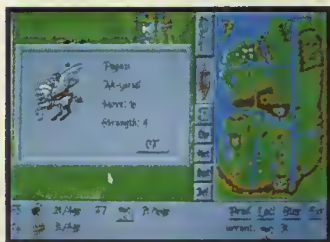
Hardware requirements:
640K minimum memory;
VGA or MCGA graphics;
hard disk required; mouse or
joystick strongly recommended;
sound boards supported.

WARLORDS

WILLIAM R. TROTTER

Australia's highly respected Strategic Studies Group (SSG) is known for inventing the "Battlefront" combat-simulation interface and applying it to a long list of distinguished games, including *Panzer Battles*, *Rommel*, and the ongoing *Decisive Battles of the American Civil War*.

In *Warlords*, SSG's designers (including such well-known game developers as Steve Fawcner and Roger Keating) have taken a holiday from historical data-crunching and produced a huge, make-believe strategy game that sprawls across a vast area and pits you against eight crafty, aggressive opponents.



You can change production quickly and easily. Light infantry is useful in the early stages and for garrison duty, but otherwise is just cannon fodder.

The quarrelsome land of Illuria has been held together by a ramshackle peace treaty which has just collapsed as the game begins. Each of the eight warring fiefdoms has but one objective: total domination of all the others, which means conquering eighty fortified cities and stomping seven opposing armies.

There are various strategic advantages and disadvantages for each of the eight armies. The Horse Lords have great mobility, for instance, while the Storm Giants—though slow to gather strength—are physically enormous. Some armies have airborne assets (such as dragons, griffins, and pegasi), and other armies have nonhuman components (such as demons, devils, and the undead).

Moreover, the terrain of Illuria is marvelously varied, with long mountain ranges pierced only by a few strategic



Use the big map on the right for keeping track of what your enemies are doing and for planning your own strategy. The cursor changes into a magnifying glass, so you can examine any place on the map almost instantaneously.

passes, and wide rivers spanned only by a few vital bridges. Coastal cities can produce ships which have both troop-carrying and combat capabilities, thus allowing naval and amphibious tactics. There's also an economic dimension to the war: Each city produces a certain amount of revenue (trade-plus-taxes) each turn, and each unit in your army costs a certain amount to maintain. If you find yourself with a negative balance, you may have to disband some of your troops until you get more money either through pillage or by conquering another city.

All armies and corps within them can be led by heroes, who have the special ability to search out-of-the-way places (temples, ruins, etc.) for powerful artifacts that add either battle or command powers. From time to time, a hero may appear out of nowhere and offer his services—usually for a large lump-sum fee. If you can afford to, it's a good idea to hire whenever this happens—you can never have too many

heroes. Also, a hero will bring some valuable allies along with him. Heroes can die, too, either in battle or while rummaging through ruins in search of artifacts and gold.

Such a multitude of variables makes for a lively game indeed. The seven fiefdoms opposing you can be made up of any combination of human or computer players. When the game starts, most of the cities in easy reach will be neutral; everybody gloms onto them first. You'll need to stop and look around, consulting your Hatred Report periodically. This report (a sub-menu) tells you how you're regarded by all the other warlords. Nobody actually likes you, of course (and there's nothing you can do to change that), but some will feel only "disdain" rather than "hatred" or "loathing." You'll definitely want to eliminate the more hostile opponents first, all other things being equal.

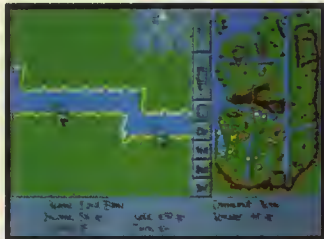
Each computerized opponent can be set to a different level of bellicosity. On the easiest level the automated enemies

tend to make cautious but relatively powerful moves, while on the most ferocious setting they'll come after you like seven different incarnations of Ghenghis Khan. On the lower settings, you can out-think the enemies quite often; on the higher settings, you barely get a chance to think at all.

Each occupied city produces certain types of units. You can produce weak units quickly and cheaply, but at certain stages in the game you'll find it worth your while to spend more time and money for the production of powerful units. If you choose to produce mostly heavy infantry, you may want to switch your coastal cities to naval production in order to gain mobility and control of the inland waterways. You can retool production priorities during any turn, as well as set destinations for newly produced units.

Combat representation is fairly pedestrian — icons square off against each other inside a screen window, and the soundtrack makes some clanking noises like swords — but the attack and defense factors can be subject to all sorts of modifiers (clearly explained in the documentation), so some fairly sophisticated tactics are possible.

Magic is factored in as a combat modifier, but there's no spellcasting as such. The wizards, dragons, and demons could be thought of as B-52s or panzer units, and should be employed when and where they'll do the most good. Although *Warlords* takes place in a fantasy land, it is not a fantasy role-playing game, and you never, ever, have to memorize "fireball spells" in bogus Elfish or find your way out of a dungeon maze.



Naval units take a long time to construct, but offer excellent mobility and unlimited strategic freedom.

All commands and movements are issued with a simple point-and-click interface, and there's a lovely strategic map visible at all times to make your generalship a relatively uncomplicated process. The graphics are colorful and charming.

The interface is so easy, in fact, that a word of caution is in order: If you've clicked on a unit in order to move it, remember to click again before moving the cursor over to the map. Otherwise, the movement mode will still be active when you move the cursor back to the tactical part of the screen and your unit will suddenly zoom off in any old direction. And once you move a unit,

there's no taking it back until next turn. At best, this can be an aggravation, and in some cases it can spell disaster.

It doesn't take much time to learn the basic rules (the game's tutorial does a nice job of covering them), and the many fine wrinkles and small features become obvious as you play.

Warlords may be easy to learn, but it's a big game indeed. Some campaigns will spread out over two or three days before a winner begins to emerge.

After a few fairly slow turns at the start, in which everybody pillages neutral cities and decides whom to invade first, the games tend to pick up great speed and to become elaborate and sometimes unpredictable.

Warlords is simple to learn, great bloodthirsty fun to play, and as addictive as *Empire*. Despite its fantasy trappings, it's a classic game of grand strategy, designed by veteran gamers who really knew what they were doing.

GP



From the pull-down menus, you can access a number of graphs that show how you compare to your rivals.

Hardware requirements:
640K minimum memory;
VGA or EGA graphics; mouse
and hard drive recommended.

WONDERLAND

GARY MEREDITH

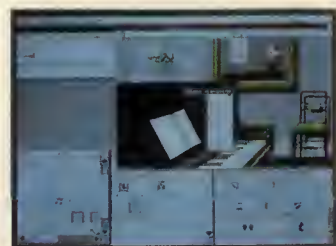
Generations of readers have had a special place in their hearts for the playful pandemonium of Lewis Carroll's classic *Alice in Wonderland*. If you've ever wondered what it would be like to trade quips with the Mad Hatter and the March Hare, wonder no more. In *Wonderland*, from Virgin Mastertronic, you become Alice, the girl whose curiosity takes her on a wild journey through a land where logic has been turned on its head.

Of course, as Alice, you may tell yourself that you didn't *really* see the rabbit in a waistcoat who appears while you're enjoying a quiet picnic in the country. But when pears in a nearby orchard start turning into lanterns, you know that reality has suddenly become altered—now you simply must find out why. Finding out, however, means following the rabbit through a hedge, down a hole, and into a world where things may or may not be as they seem.

The hole leads to a corridor, where you must try to get

your bearings and then carefully look around. You'll want to pick up any items you find, even though a use for each item may not be obvious when you first acquire it. As in many other role-playing graphic adventures, your strategy in *Wonderland* involves trying to find creative uses for the items you uncover. Some objects have obvious uses, such as bottles that say "drink me." But using even these takes some ingenuity, however, since there may be several ways and situations in which to use the bottled potions—but there may be only one *right* way or one *right* time.

Once you've picked up everything that's not nailed down, your next order of business is to find your way into and out of the Great Hall. Using one of the articles you've acquired, you must convince the rabbit that you're someone else. If you can pull this off, leaving the hall will be easy. What's not easy is figuring out what to do after you've left the hall and entered Wonderland. There are a number of paths you can take,



The piano contains something you need badly. Before you can get it, you'll have to figure out both how to get the dancing chairs to cooperate and how to use the few items you have in your possession.

some of which require the most extreme caution. And it's on these dangerous paths that the ability to save your game really comes in handy.

As with many other role-playing games, you should make it a habit to save your game, especially when you're about to enter unknown territory. Venturing into the enclosed garden from the treehouse is a case in point. Unless you have exactly the right item when you enter the garden (and you probably won't the first time around), you'll have no way to get out. Exploring the Duchess' house, particularly the kitchen area, is also hazardous if you haven't recently saved the game.

Talking to all the strange and wondrous characters you meet is another skill you'll need to cultivate. Sure, there are a few folks who will answer a simple question with a simple answer, but for the most part, obfuscation is the order of the day for the denizens of Wonderland. The conversations (and I use the term very loosely) that you have with the caterpillar and the guests at the tea party are particularly exasperating. Beyond that, even *starting* a conversation with the Cheshire cat can be an exercise in futility.

If you're used to playing games only on MS-DOS ma-



The peace and tranquility of this pastoral scene is about to become a distant memory for Alice.

chines, *Wonderland* may look and play a little strangely to you. Those who've had some experience with the Macintosh, however, will probably feel right at home. *Wonderland* uses a multiple window format that may take the hard-core MS-DOS user some getting used to. Windows for text, graphics, automatic mapping (a real blessing considering the labyrinthine nature of Alice's adventure), personal inventory, room inventory, and a compass rose can be sized and positioned on the screen. This feature allows you to customize (and save) the game layout according to personal taste. While this looks very impressive, there are two minor problems.

First, there's the problem of too much information. Sev-

the pull-down menus, the screen can become a pretty bewildering melange. Of course, you can always eliminate some of the windows. But you'll likely discover that several of them (the automatic-mapping window is one) become almost a necessity even if they are sometimes confusing to interpret.

The other problem with the windows approach is its appetite for memory. Because many of the scenes in the game feature animated graphics and a quite sophisticated soundtrack, you're already operating near the edge as far as available RAM is concerned. (If you have *any* memory-resident programs aside from a mouse driver, you'll have to get rid of them). When the game starts flashing messages about shutting down



watch when everything is running smoothly. But even apart from the windows design, *Wonderland* simply has a unique feel, different from most other graphic-adventure games. And this can be attributed to its origin. The game, like the classic literary work, is thoroughly British — from the anglicized spelling to the dry humor to the understated but gorgeous graphics. The overall design works very much toward making the game visually appealing, giving it a delightfully filigreed Victorian appearance. If you're in search of something different in a role-playing adventure, or if you'd just like to know what the caterpillar really had in his hookah, you'll want to give *Wonderland* a go.

Once these guys have finished their transaction, you should be able to gain entrance to the Duchess' house. You'll want to avoid her cook, however, unless you enjoy having crockery broken over your head.



Yep, this is the hookah-smoking caterpillar Grace Slick once sang of so eloquently. Getting a response out of him that's not couched in a question will be a major task for you.

eral pull-down menus dealing with text entry and inventory manipulation can be activated, and these menus appear over the windows. When you've got all of the windows open and you're searching for items in

various windows because you've run out of memory, the clever design suddenly loses some of its charm.

All things considered, though, *Wonderland* is a very impressive game to play and to

GP

Hardware requirements: 640K minimum memory; VGA, MCGA, EGA, CGA (no graphics), Hercules, and Tandy 16-color graphics; hard disk recommended; 8-Mhz 286 or faster machine recommended; mouse recommended; joystick optional; AdLib and Roland sound boards supported.

AIR STRIKE USA

JEFF LUNDRIGAN

It's sometime in the 21st century, and war has broken out between two factions, known only as the Allied forces and the "Enemy." You're an Allied pilot, flying a technically superior Stealth fighter, but you're never told *who* the Enemy is. Combat takes place over the entire world, with Enemy and Allied units scattered over a map with no recognizable fronts or borders. *Air Strike USA* from Cinemaware bills itself as an action-strategy game, and that's a fair description. It's not a simulator, but it's more than just a simple shooter.



Choose the difficulty level by selecting one of eight pilots from the ready room. "Chipper," the youngest and least experienced, draws the easiest missions. "Mad Dog," holding his helmet, gets the toughest assignments.

The object of the game is to support Allied ground forces. Before each mission, you're briefed and shown a map that gives the exact locations of Allied and Enemy forces. However, the map doesn't show you what kind of units most of these are—only two of the targets are identified, and their locations are loaded into your fighter's computer.

After takeoff, you're constantly assaulted by swarms of enemy fighters, enemy SAMs, and anti-aircraft fire from ground installations. SAMs aren't much of a problem. A warning signal blares when a

SAM is fired, and all you have to do is press the "J" key to jam the SAM's radar (before it hits you, of course). For some reason, if you turn off the sound, the missiles stop firing altogether.

The game's biggest shortcoming by far is its frustrating targeting system. Your fighter's targeting computer must know exactly what kind of unit an Enemy is—whether it's a tank, factory, ship, etc.—before it can lock on, or even give bearing and range information. A lot of game time (and jet fuel) gets burned up while you try to

recall the Enemy locations from the briefing, then fly to their approximate position and wait until your computer detects and identifies a target. This isn't unrealistic by itself, but you can't even load in a suspected location as a way point. The only way to find the enemy is to keep flying at what you believe to be the right heading, and hope you stumble across a target.

Before you can open fire on a target that's been identified, you must select it from the list of targets in your computer's database. One button scrolls through the different target types, but it only goes one way. If you pass the desired category, you can't scroll back.

Further, although you can select the nearest identified target within a given category at the touch of a button, there's no way to punch up the nearest target *regardless* of category. The only way to do this is to scroll through the categories until you find the closest target, which isn't easy when



Although there's a cockpit instrument panel across the bottom of the screen and a head-up display at the top, the game still has a third-person perspective, and can't be considered a true simulator.

you're under fire. It's really annoying to find a cluster of enemy units, then have to repeatedly turn around and attack because you've flown over a target before you were able to select it.

From a pure strategy standpoint, however, *Air Strike USA* is actually pretty interesting. Enemy tanks and artillery must be knocked out before they get to Allied installations, but if you neglect factories and communications, you'll find that everything you've blown up is quickly replaced. It's an uphill battle, especially at higher difficulty levels, and is a fascinating challenge. But since target identification is mostly a matter of luck—finding the right units at the right time—the strategy element gets diluted. Once you get the hang of the game's mechanics, flying a successful mission becomes less and less difficult.

In fact, between the sketchy background and the cumbersome flaws, it's almost as if the game was released before it was completed. The concept is excellent, but the playability just isn't there.

GP

Hardware requirements: 640K minimum memory; CGA, EGA, VGA, Tandy 16-color, and Hercules graphics; mouse or joystick optional.

Live the dream ...

WONDERLAND

TM

Step into the bizarre logic of Lewis Carroll's spellbinding imagination...

Attend the Mad Hatter's absurd tea party. Meet the caterpillar perched upon his mushroom, puffing away on his hookah. Drop in on the duchess (is that a baby or a piglet she is holding?) and her temperamental cook.

You, as Alice, face a plethora of puzzles, puns and conundrums. Like how to assist the royal gardeners in painting the roses red before the Queen of Hearts arrives to inspect them. Challenges to perplex and enchant you for hundreds of hours.

But Wonderland isn't just a bewitching story. It's playing environment breaks new ground for computer adventures. Here's what the editor of Computer Gaming World has to say about it!

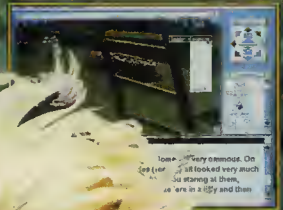
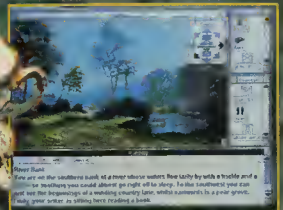
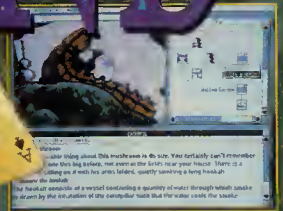
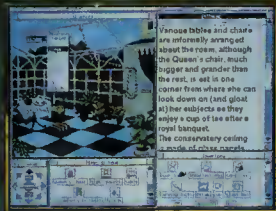
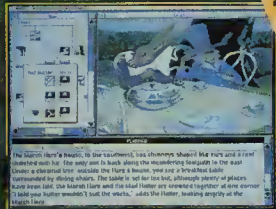
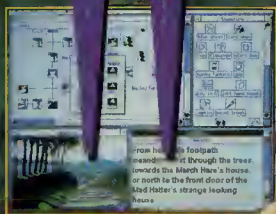
"The game is neither strictly a text adventure nor can it be described as a graphic adventure. It is its own genre... The game uses multi-tasking to offer an incredible array of features..."

Besides superb graphics and sound support, Wonderland's unique windowing environment offers pull-down verb and noun menus, graphics you can size up or down and move around the screen, automated mapping, point-and-click object manipulation, a compass for directional movement, and extensive on-screen help.

"Innovative," "ambitious" (The Chicago Tribune),

"exquisite and impressive" (CGW), "brilliant and insane" (The Electronic Gamer), are more words used to describe Wonderland. Questbusters calls its windowed universe "the ultimate interface."

Stunning graphics, impressive sound board support and a captivating story, all in a sophisticated new windowing system, combine to make Wonderland the richest adventure ever: a game to play, to tell, and to inhabit.



Screens taken from IBM VGA version.
For IBM, Amiga and Atari ST computers.
Suggested price \$59.99

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18001 Cowan, Ste. A, Irvine, CA 92614 714-833-8710

BIG BUSINE\$\$

BRIAN CARROLL

We don't like to admit it, but there's a bit of Donald Trump in each of us. Consciously or subconsciously, we all want a greater degree of control and power in our lives.

A pretty harmless way to deal with an urge for power is to dust off the family edition of Monopoly and start buying real estate. And if either time constraints or a lack of takers rules this out, you could try out *Big Busine\$\$*, a "semi-realistic wacky business simulation" from DigiTek.



Your main screen in *Big Business* is the board room, where your company officers meet. You can always monitor your company's performance by your officers' appearance.

With this game you can wield and even abuse enormous power without harming or offending anyone.

The key word in DigiTek's own description of the game is "semi-realistic." Although you'll make executive decisions, such as how much money to spend on advertising, when to borrow money, and at what capacity to operate your factories, this game clearly strives to entertain rather than to simulate. The designers obviously wanted to avoid giving players the sense of sitting in a college economics class because they injected the game with liberal doses of levity. Besides offering humor, *Big Busine\$\$* provides insight into some basic business practices and matters. And it avoids what it could have become — a tedious role-playing exercise in the mundane operations of a large manufacturing enterprise.

The game begins with three players (any combination of human and computer-controlled competitors) manufacturing and marketing the same product. Each player has equal assets and equal liabilities. The player who acquires the most

earned income by the end of the game is the winner.

You control your company through the personas of five executive officers: a purchasing agent, a production manager, a research and development manager, a sales and marketing officer, and a financial officer. They are permanently stationed in your board room, which is the main work screen of the game. In fact, how your company is faring is comically reflected in the way these five employees are dressed. If your sales officer is wearing a soiled tee-shirt and a three-day-old beard, your firm is probably in big trouble.

Whether you'll enjoy *Big Busine\$\$* depends largely on what you expect of the game. If you have superior business acumen and expect to be rewarded for it, you'll be disappointed. On the other hand, if you're looking for a new, upbeat entertainment package for your PC, *Big Busine\$\$* is worth strong consideration. It will bring more than a few chuckles while it subtly draws you into

caring deeply about your imaginary enterprise.

Big Busine\$\$ is bundled with a bonus companion game, *Wall\$street*. This game, a serious complement to *Big Busine\$\$*, does a fine job simulating the stock market. Designed and marketed in 1989 in Germany, the game delivers the experience of speculating on market trends in a volatile economy — without the real-world risks.

Wall\$street is fairly complex, presenting a market that reacts to events, dividend expenditures, borrowing, and the fluttering fortunes of the game's players. Where *Big Busine\$\$* tries to amuse with a fantasy world, *Wall\$street* aims to replicate the real world. Together, the two games make for a good blend of entertainment and education in the field of finance.

GP

Hardware requirements: 512K minimum memory; VGA, EGA, Tandy 16-color graphics; mouse or joystick optional; supports most sound boards.

COMMODITY	BUY	HAVE	NEED	SHORTAGE
HOPS	BUY	40	120	80
BARLEY	BUY	60	180	120
YEAST	BUY	100	300	200

PRODUCTION SCHEDULE
1,500,000 UNITS

RAW MATERIAL PRODUCTION

HOPS: 1 icon
BARLEY: 1 icon
YEAST: 1 icon

Your purchasing agent is responsible for maintaining enough raw materials and production facilities. He'll represent your company at the Commodities Exchange.

CALIFORNIA GAMES II

RICHARD LASHLEY

If you remember Epyx, you've been a computer gamer for at least a few years. In the 1980s, Epyx was one of the top computer entertainment houses in volume sales and in industry awards.

California Games was one of Epyx's most successful products, a number-one bestseller in both the U.S. and Europe. Epyx grossed \$38 million in sales in 1988, but a year later, much to the surprise and dismay of many, the company all but vanished.

jet surfing, hang gliding, body boarding, and skateboarding. You and up to seven other competitors can practice each event, then compete to see who'll become Supreme Dude of California.

Each of the events is exciting, but the hang gliding and skateboarding segments are particularly good. In the hang gliding event, you're treated to a panoramic view of San Francisco's Fort Funston. Pay close attention to the wind sock on the cliff from which you

its appeal, skateboarding is perhaps the finest. You enter one of California's empty aqueducts to do some heavy shredding. The course is a series of pipes where you skate against time, perform stunts, and — most importantly — try to stay alive.

This event proves that a game can allow complicated moves without forcing you to memorize complex controls. For example, 360-degree aerials are done by rhythmically skating back and forth in the half-pipes until you get some air (jumping above the rim of the pipe). If your timing is right, your skater does some remarkably smooth twists in midair. You then move on to the full pipes to try the gravity-defying corkscrew stunt. This dizzying move is a true test of nerves. It's here, on the slick surfaces of the aqueducts, that you can prove that you're the Supreme Dude.

Simply put, *California Games II* is a lot of game. Its easy controls and well-rendered graphics ensure many action-packed hours of fun. A minor disappointment is the minimalist soundtrack (although a separate AdLib version of the game is available). But if you turn down the PC's annoying bleeps and turn up your favorite Beach Boys album, it's easy to lose yourself in this game's sun-drenched fun.



In the jet surfing event, you can choose from a variety of skis and courses. This course, Ramp-O-Mania, requires you to ski over ramps on your way to some high-flying stunts.



Hang gliding over Fort Funston is both fun and dangerous. Wait until the wind sock signals an onshore breeze, then launch yourself into the sky.

Now Epyx has reemerged on the PC scene with *California Games II* — and it looks like they've got a winner. This sequel should please anyone who enjoyed *California Games*.

The first thing you notice about *California Games II* is its nicely designed, cartoonlike graphics — particularly in VGA mode. It's soon apparent that Epyx did its homework. You quickly get the intended mood as you enter the carefree world of California beach life.

California Games II looks good, and it's also genuinely fun to play. There are five competitive events: snowboarding,

launch, then take off when the sock shows an onshore breeze. After you take that big step off the cliff, you have 90 seconds in which to perform stunts, drop water balloons on three floating targets, and then return for a landing on the cliff — easier said than done.

Search for the thermals (updrafts of warm air) near the face of the cliff to keep you soaring. Score quick points by attempting as many loops as possible, and get as much altitude as possible before releasing your water balloons toward the floating targets.

Although every event has

GP

Hardware requirements:
512K minimum memory;
VGA, EGA, Tandy 16-color,
CGA or Hercules graphics;
hard drive recommended;
joystick optional.

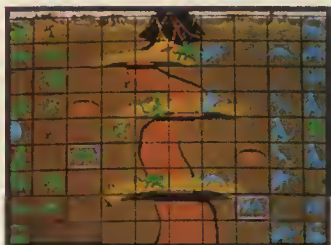
DINOWARS

LISA M. BOUCHEY

Remember going through a phase when you couldn't learn enough about dinosaurs? It seems that, at some point in their lives, most everyone is fascinated with the prehistoric creatures--and many still are. If you're a wanna-be paleontologist who can't get enough of the "terrible lizards," Digitek's *DinoWars* is a game you've got to check out.

Based on the rather contrived premise that different species of dinosaurs banded together in social groups to stave off extinction, the game tells the story of two different dinosaur groups. The last hope of survival for each group depends on the birth of a new leader -- a dinosaur that incorporates the traits, fighting skills, and intelligence of the combined dinosaur races.

In a last-ditch attempt to ensure their survival, the two dinosaur armies have kid-



The strategy board game pits opposing dinosaur armies against each other in a battle to rescue a kidnapped dinosaur egg -- only the strong survive here.

napped each other's eggs. The game pits the armies against each other in a strategic battle to recover their eggs.

Before you get too engrossed in battle, though, take a look at the game's on-disk encyclopedia. The encyclopedia provides information on a variety of topics, from different theories of dinosaur extinction to an explanation of continental drift.

The encyclopedia does have its weak points. It includes outdated names for dinosaur species (the *Brontosaurus* species was renamed the *Apatosaurus* several years ago). And it claims that the *Dimetrodon* lived in what is now Texas, even though it's generally accepted that the *Dimetrodon* was dominant



An action-arcade battle feature places opponents face-to-face in a test of strength and reflexes. Like a prehistoric prize-fight, a clock ticks away as scores are tallied and the battle roars on.

throughout North America. But if you need to know whether or not the *Stegosaurus* can swim or if the *Triceratops* stands a chance against the *Tyrannosaurus*, the encyclopedia is very handy.

Before beginning a war, you must select one of five terrains on which to play. A 9-by-10 square playing board is superimposed over the terrain you select. The terrain you choose (river, volcanic, jungle, desert, or chess) determines the movement capabilities of each dinosaur. A nonaquatic dinosaur, for example, would not fare well in a river terrain. The Rank Screen Editor lets you customize the board game and choose which dinosaurs will make up your army.

The game is won by reclaiming the captured egg or by eliminating the opponent's army. Players move their dinosaurs across the board toward the enemy, much like a game of chess. If two opposing dinosaurs try to occupy the same square, the screen switches from an overhead view to a side view of the battle. After a fight to the death, the victor claims the square and continues the march toward the

egg. Knowing the strengths and weaknesses of each of your dinosaurs is crucial to your success.

For players who want an arcade-style alternative to the strategy board game, there's a battle game option that places opponents in a one-on-one combat situation where you'll see lots of chomping, snapping, and clawing.

The game's graphics are adequate, but DigiTek has done a particularly nice job with the VGA mode. Hard drive installation is recommended (juggling seven disks gets a bit tiring), but you won't need a joystick or mouse -- the game can be played easily with keyboard controls. Most importantly, though, the strategy board game and battle sequences are fun, especially if you're a dinosaur fan.

GP

Hardware requirements: 512K minimum memory (640K for EGA and VGA graphics); VGA, EGA, Tandy 16-color, and CGA graphics; supports sound boards; mouse and joystick optional.

LEGEND OF FAERGHAIL

NEIL RANDALL

REVIEWS

This one comes under the "Nice try, but...." category. A fantasy role-playing (FRP) game with some significant differences, it simply isn't strong enough to capture a demanding market.

Legend of Faerghail, from Electronic Zoo, starts off promisingly enough. You begin by using a character-generation system that's interesting and well done. Each character can be either human, dwarf, elf, halfling, or mixed race — a fairly limited choice, but certainly all an FRP game needs. Each character is then assigned one of 12 professions. Included are standard professional classes such as warriors, barbarians, thieves, clerics, druids, magicians, and so on. One profession represented here, however, the blacksmith, is fairly uncommon in the FRP genre. This character can repair weapons and armor (which break a lot in this game), and cast certain magic spells as long as he has his hammer and anvil. As it turns out, the blacksmith is an interesting and welcome addition to the usual FRP cast of characters.

Another fascinating aspect

of this game is the use of languages. Somewhat like the recently released *Tunnels and Trolls* system, *Faerghail* demands that you pay attention to the different dialects in its world. Unfortunately, this level of realism tends to make things more difficult, and many players might feel it's not worth the bother. The notion of languages is a strong idea in the role-playing genre, but the inclusion of different language systems can lead to the same problem in games as it does in fantasy or science-fiction novels: It requires a lot of extra effort.

Faerghail is a land of taverns, towns, temples, and traps. Eight dungeons await the members of the adventuring party, whose different skills and abilities are augmented by access to hundreds of magical spells. The game's combat system is good, letting you choose individual actions for each adventurer, and a quick combat option is available at all times (though it's not much quicker than the full combat system). But combat is deadly, and you'll find yourself saving games often (you can save up to eight) and restoring frequently.

And that's where *Faerghail* starts to suffer. Step outside the town of Thyn, and you'll be confronted by all kinds of annoying monsters. Rats, ants, and other things gang up on you, and you must destroy all of them. Combat is indiscriminate and far too frequent to be enjoyable.

Worse still, the monsters get stronger as you get better at combat. Rather than assign monster strength to specific dungeon levels, *Faerghail* simply increases monster strength as your party's strength improves. Given the annoying number of combats, this makes the game even less enjoyable — and as a result you tend to avoid exploration.

Another problem is that not always apparent what you should be doing next. The plot is far from clear, and you'll find yourself wandering aimlessly on several occasions. And locations reposition themselves as you go, which is either a program bug or a highly sophisticated means of showing that the rest of the *Faerghail* world is progressing as well. Regardless of the reason, it's confusing.

Dedicated FRP gamers will appreciate *Faerghail's* unusual approaches to standard FRP systems. But *Faerghail* is less interesting than many FRP on the market — the game's more interesting points simply get lost.

GP

Hardware requirements: 640K minimum memory; VGA, EGA, CGA, and Hercules graphics; supports mouse.



Here is a combat screen from early in the game. Each character can be ordered to attack or defend. Note the Quick Combat option, a welcome feature.



This screen shows the rogue Zamgrib with all his characteristics. This is typical of the game's colorful graphics.

NIGHT HUNTER

MATT LAURENCE

Under the light of a pale moon, shadowy figures shuffle fearfully across the landscape and into the streets. Terror shows on every face tonight as the villagers gather behind the intrepid Professor Van Helsing. Only he can save their village, their lives, and their very souls. Tonight is the night of the vampire Count Dracula, and he's out to do more than bite a few necks. This time, his goal is to dominate the entire world. And best of all, he's you.



Escaping angry villagers requires cunning — and wings. By changing into a bat, you can fly over rivers, obstacles, and foes.

Night Hunter, by Ubi Soft, varies from the usual scrolling shoot-em-up in several ways: It's not *exactly* a shoot-em-up; there's no true scrolling (you move from screen to screen); and it reverses allegiances, putting you in the role of the traditional "bad guy."

Hey, Dracula isn't such a nasty fellow—he's just misunderstood. He has what you might call an oral fixation. But you've gotta do what you've gotta do, and in *Night Hunter* that means making your way through town, castle, and wilderness — 30 levels in all — to find the life-saving medallions that Dracula needs to take over the world. Along the way you

must look for important objects, find keys to unlock doors, avoid the henchmen of Van Helsing...and quaff the blood of a few villagers to keep you well-fed and rosy-cheeked.

You'll face a horde of angry opponents, all bent on your destruction. These guardians of good include tough guys who pummel you with furious fists, priests who burn you with holy water, cops with itchy trigger fingers, women with crosses that paralyze you at 50 feet, and archers who shoot at you even when you're flying. Yes, flying. In *Night Hunter*, you have the power to change into the forms traditionally associated with vampires.

With a flick of the joystick, you can mutate into either a highly maneuverable bat with great speed, or a hulking werewolf with plenty of muscle. Each shape you assume has its advantages and disadvantages, and you can stay transformed only for a short period of time. To enter houses or get objects, however, you must change back to human shape.

The graphics in *Night Hunter* are good, from hopping frogs and flying witches to villagers who collapse in a heap of bones once you've sucked them dry. But if you've seen the Atari ST and Amiga versions of the game, you'll probably be a bit disappointed.

The sound effects aren't bad for PC sound, but unfortunately no popular sound cards



Locked rooms and houses often contain objects that are vital to Dracula's midnight quest. But they can also conceal some of your most dangerous enemies.

are supported. The Atari ST and Amiga versions of this game are superior in this respect as well, with wonderful sound effects and music.

Installation to a hard drive is simple, and games can be saved between every level. Though the graphics and sound leave something to be desired, this is still a game with teeth (if you'll pardon the expression). It's fun to play, fun to watch, and really cathartic. There's nothing like munching on a cop to get out those pent-up aggressions.

Although it suffers from a few weaknesses in the audiovisual area, *Night Hunter* has an addictive quality that kept me coming back for another game. If you've always wanted to play the bad guy, if you like fast-paced action games, or if you just want to reach out and bite someone, you'll probably enjoy *Night Hunter*.

GP

Hardware requirements: 640K minimum memory; VGA, EGA, CGA, or Tandy graphics; joystick recommended.

NIGHT SHIFT

WAYNE KAWAMOTO

How exciting can a career in the toy industry possibly be? *Night Shift* proves that it's not what you might expect. The game puts you to work in a wacky toy factory that's, well, a mechanical engineer's worst nightmare. Making toys might sound like child's play, but in LucasFilm's *Night Shift* the process is a tough, chaotic, funny, and enjoyable arcade adventure.

You're the new employee at the Industrial Might and Logic Toy Factory, which makes action figures based on characters from the films of George Lucas. Here, you'll make toy storm troopers, as well as models of Indiana Jones, Obi Wan Kenobi, Luke Skywalker, and many more. Your unenviable job is to run the huge, enormously complicated toy machine, nicknamed "the beast," during the 9:00 p.m. to 4:00 a.m. night shift.

Your first task is to get the factory running. By being resourceful and by using various tools, you'll tighten loose screws, replug disconnected power cords, turn up the heat by adjusting furnaces, and generate power from a stationary bicycle.

Once you get the factory's machinery going, you'll have to concentrate on toy production. Your boss will want you to build a specified number of characters in different colors — for example, three red Luke Skywalkers and two blue Darth Vaders.

Meeting your quotas is essential to keeping your job. It's up to you to mix paints, choose the correct molds, check the conveyor belts, and make sure that pieces are assembled correctly.

Anything and everything goes wrong. Reversed conveyor belts dump your finished toys into the trash, mistimed assem-



This toy factory is a disaster waiting to happen. Your mission (and you've already accepted it) is to get this heap running and meet your quotas.

bly lines make dolls with two heads, and so on. It's all a mad dash at lightning speed because your quotas must be met in a very short time.

Night Shift offers a save game feature when you advance to new levels. This feature is nice to have, but it makes for especially tough playing if you jump in at the advanced levels — you're suddenly thrown into dealing with increasingly unreliable components and a greater number of toy orders.

As you would expect in a LucasFilm game, *Night Shift* has excellent animation and cartoon-quality graphics, particularly in VGA mode. If you have a sound board, you'll hear nice special effects and a catchy soundtrack.

At first, the game is overwhelming. But after a few shifts, things gradually start to fall into place. The game kindly includes a practice mode in which you can get a feel for the process without the pressure of time limits. Use it.

My joystick, which works with every game I have, would not stay calibrated with *Night Shift*. Fortunately, the game plays quite smoothly with keyboard controls.

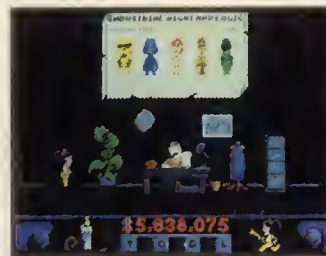
The documentation is written in a light, readable style,

but is interspersed with missing letters — in the spirit of the game, no doubt, but a little annoying nonetheless. To reduce player trial and error, the manual could offer more explanation about the machine parts, or even include a map. Like the missing letters, these omissions were likely intended by the game designers.

Overall, *Night Shift* is fun, but at times quite aggravating — not unlike those days at work where there are a million things to do and no time to do any of them.

If you're up to a stiff but fun-filled challenge, go ahead and apply for the job — no references necessary.

GP



Your boss says you must make the evening's quota: a yellow storm trooper, 13 blue Darth Vaders, and a host of other Lucas characters.

Hardware requirements: 512K minimum memory for VGA and EGA graphics; 640K minimum memory for MCGA and Tandy 16-color graphics; joystick optional; AdLib and SoundBlaster sound cards supported.

RENEGADE LEGION:INTERCEPTOR

S.F. SPARROW

If you've been playing PC games for several years, you need no introduction to **Strategic Simulations Incorporated (SSI)**. This company has been developing PC wargames and role-playing games for years. One of its latest efforts is *Interceptor*, which is based on the Renegade Legion role-playing series of board games from FASA Corporation.

Fortunately, you don't have to know the board game to get up and running with this new computer version. *Interceptor* is a futuristic role-playing game in which the Terran Overlord Government (TOG) is spreading tyranny from one star system to another. TOG faces its only organized resistance from the Commonwealth, a loose coalition of frontier systems and nonhuman sentients. Ex-TOG pilots, flying under the name of Renegade Legion, have banded with the Commonwealth in the struggle to halt TOG's plan for galactic domination.

Your initial task is to as-

selecting crew members with various strengths and weaknesses. You select your sentients from the four most significant races (one being the human race) in the game. There are important differences between the races, so consider your choices carefully.

The next step is to select a ship. There are 24 different types of ships available, 12 for each faction. Stylized spacecraft information cards provide specifications and common tactical usage for each ship. You can also custom design your own ship if you earn enough Prestige points, which are awarded for destroying enemy craft and accomplishing your mission goals.

One of *Interceptor*'s strong points is that all the information needed to conduct a battle is well-organized and easily accessible. During an attack, you can examine your ship's status in detail, in addition to the wealth of information provided about any craft taking part in the engagement.

Game battle sequences are handled nicely, too. Each player, human or computer, moves one spacecraft at a time, trying to maneuver into good firing position. When all moves have been made, the shooting starts and laser

blasts streak across the screen. An excellent learning device is to turn control of your squadron over to the computer, but leave one ship for yourself. This allows you to concentrate on battle technique, rather than worrying about overall squadron strategy.

There are a couple of problems with *Interceptor*. The first

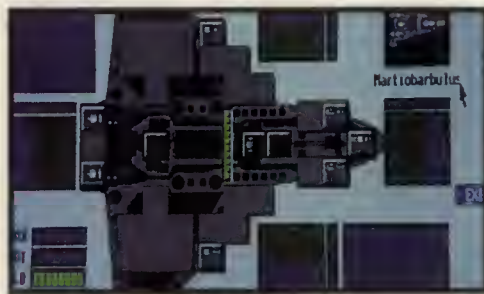


Using the ready-made crew gives you a fairly balanced team, and lets you get into battle more quickly than if you select crew members individually.

occurs during battle sequences, when one spacecraft graphically overlaps another and obscures its image, causing you to miss its presence and possibly make a tactical error. The other problem is that the game manual gives no attention to the basics of squadron formation, fighting technique, or battle tactics. An explanation of space-fighting strategy should have been included for players new to this kind of role-playing game.

SSI has done another generally fine job of translating a popular board game to the personal computer. *Interceptor*'s graphics are good enough for the game's intentions, and the game interface works smoothly, especially with a mouse. *Interceptor* will be appreciated by experienced role-playing gamers. Inexperienced players, on the other hand, have a long learning curve ahead. Either way, it's a game that offers many challenging hours of play.

GP



It's easy to retrieve information on any ship involved in a battle, including enemy vessels.

semble a fighter crew. There are two ways to do this. The easiest method is to load the ready-made squadron provided with the game. You can briefly review your squadron's assets and quickly head out into battle. The other method is the role-playing tradition of "rolling" your own crew, where you try to form a balanced team by

Hardware requirements: 512K minimum memory; CGA, EGA, and Tandy 16-color graphics; dual floppies or hard drive recommended; supports mouse.

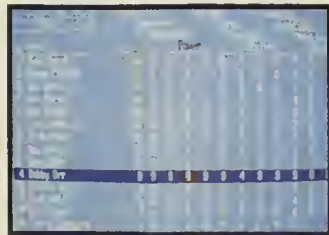
WAYNE GRETZKY HOCKEY 2

NEIL RANDALL

REVIEWS

This newly released sequel is a significant upgrade of its highly acclaimed predecessor. *Wayne Gretzky Hockey 2*, from Bethesda Softworks, includes a number of improvements in play that make for even truer hockey simulation. Essentially, though, it's the same game, with the same overhead perspective and the same strengths and weaknesses.

First, let's note the weaknesses, because there aren't many. The most important one is lack of shot control. Hockey players spend a fair portion of their lives mastering different kinds of shots, and a well-rounded player can execute a fast, accurate wrist shot, slap shot, snap shot, and backhand, with several varieties of each. In addition, players strive for accuracy. *Gretzky 2* lets you shoot, but it doesn't let you aim for the corners of the net or perform such vital moves as faking a slap shot or taking a wrist shot. This is the only important feature missing, and it's missing largely because the game is rendered two-dimensionally (from directly above the ice).



The stats for Bobby Orr show how dominant this great Boston defenseman was in his prime. You can add your own teams, but the stats are numerous and difficult to estimate.

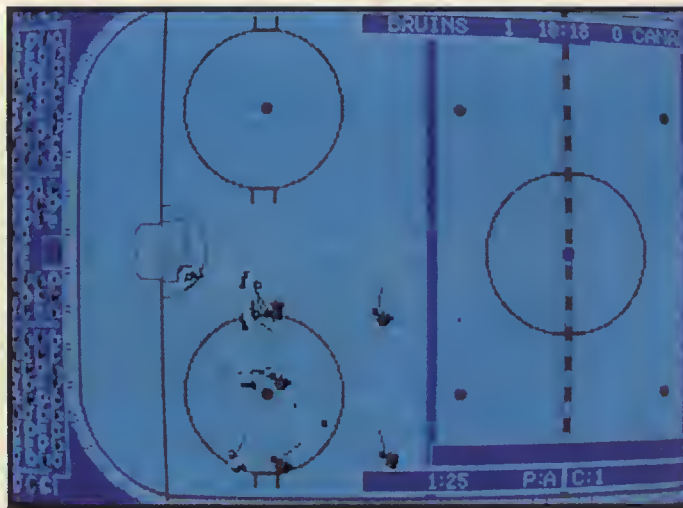
The only other weakness is more of a personal quibble concerning design. Shooting the puck at the net is difficult, because you must first move the cursor to the net. I'd rather use the left mouse button for

passing and the right for shooting, assuming that the player will always shoot for the net.

The enormous strengths of *Gretzky 2* are the real issue here. None of the features from the original are gone, and all the enhancements are significant. Now you can manually change lines, including substitution of individual players on specific lines. *Gretzky 2* now features three referees, each with his own penalty-calling obsessions. At the end of the game you now automatically see the highlights of the goals scored, and you can save other interesting plays for later replay. The sequel also supports both AdLib and Sound Blaster boards.

Other improvements deserve mention. *Gretzky 2* contains a play editor, much like those found in other computer sports games. It's not widely recognized that hockey, with all its speed and apparent chaos, is made up of set plays, but good coaching consists chiefly of making such plays work. You can now create up to 16 plays per team. This feature dramatically increases the realism of the coaching portion of the game.

There are more improvements. In the original game, two players could compete only against each other. In *Gretzky 2*, you and a friend can play on the same team. In the original, team play was predictable, whereas now you can order your team to pass more often or dump the puck in and chase it. Most importantly, the com-



puter now plays much more intelligently. No longer do computer players pass the puck without ever attempting a shot, and they move into far better positions on the ice than before. Finally, the game recognizes the new offside rules.

If there's a true criticism, it's that the game comes with only two teams, the 1972 Boston Bruins and the 1972 Montreal Canadiens. If you want to coach Wayne, you'll have to order one of the separate team disks from Bethesda.

To my mind, *Gretzky* remains the most impressive sports simulation on the market, if only because hockey is notoriously difficult to simulate. *Gretzky 2* shows that Bethesda's designers are committed to a very fine product. Let's hope they continue to bring it to perfection. **GP**

From the face-off during a Montreal power play, the puck slides back toward the defenseman for a shot.

Hardware requirements: 384K minimum memory; VGA, EGA, CGA, and Tandy graphics; mouse and joystick optional; supports AdLib and Sound Blaster sound cards.

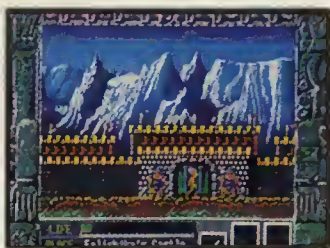
ZELIARD

MATT LAURENCE

In recent years, Sierra has brought several games from Japan to the U.S. for distribution. These titles are from Game Arts, and several of them — particularly *Thexder* and *Silpheed* — have sold quite well. The newest package from the Game Arts/Sierra arrangement is *Zeliard*, and it takes a big step forward in the action-adventure field.

You begin *Zeliard*'s simple but atmospheric plot in the evil town of Muralla, just west of the "caverns o' doom." You play Duke Garland, the only one who can destroy the Jashiin, the Head Evil Dude. In order to crush him, you must collect the Tears of Esmesanti, powerful crystals hidden in the caverns and guarded by huge beasts. In town you can stock up for your journey and gather information from townsfolk. After getting enough goodies and gossip, you're ready for the caverns.

The game picks up pace once you're underground. A



In front of King Farishika's castle, you're ready to stock up for your journey. But first you'll need gold to buy supplies.

quicksword and good timing are essential as you explore the caverns between towns. Most of the monsters you kill leave behind a bubble you can collect to add "almas" to your inventory. Almas are a sort of magic currency that can be exchanged for gold, which in turn can be used to buy better weapons, potions, or magic items. And upgrading these items becomes crucial as you descend deeper into the caverns.

As in most role-playing games (RPGs), you must keep track of your character's life (hit points) as you progress from level to level. You also need to collect certain items, such as keys or icons, to facilitate your

quest. Combat aids include spells and potions that boost your offensive and defensive abilities. Only experience brings you more spells, but you can buy potions at the witchcraft shop in any town. (Two tips: Be sure to keep a Magia stone with you for final combat rounds. And don't trust the Kioku feather — it can get you out of sticky spots, but only at great cost.)

drive, and if you've got a sound card, the wonderful music will make you feel like dancing.

This is a game you can simply fall in love with. As arcade games go, *Zeliard* is not stunningly unique in style or techniques, but its wide variety of challenges and environments keeps it always fresh. As an RPG, it's not as deep as, say, an *Ultima* title, but it stands out as one of the few primarily ac-



Even with your first steps into the Cavern of Malicia, you encounter and slay a nasty critter.

Beyond these role-playing components, *Zeliard* is basically an action game — but an action game with brains. As you zip around and kill monsters, you must also find your way through mazes of passageways, avoid deadly traps, and learn new actions and techniques. But the spirit of *Zeliard* is kind — if you're on the brink of death, the spirits will whisk you back to Muralla, taking some gold for their troubles. If you've reached a fairly high level, it means a long return trip once there — but it sure beats the alternative.

Zeliard's graphics are lovely, if not stunning, and a multitude of features makes the game truly enjoyable to play. It's easy to install on a hard

tion-oriented examples of its genre. As a hybrid, it holds its own in the arcade arena, while providing RPG players with a quick-and-dirty dose of action. Though hard-core RPG fans might not find quite enough here, most gamers will spend many a night spelunking through the caverns of *Zeliard*.

GP

Hardware requirements: 512K minimum memory; VGA, EGA, CGA, Tandy, MCGA, Hercules graphics; hard drive recommended; supports AdLib, Roland, and Tandy sound.

ON THE ROAD

Here's good news for PC driving enthusiasts: Accolade has recently released *Road & Car #1*, the first add-on car and scenery disk for *Test Drive III: The Passion*. *Road & Car #1* brings the Acura NSX and the Dodge Stealth R/T Turbo to the Test Drive fleet. Both cars have realistic digitized dashboards, as well as the speed and handling characteristics of their real-life counterparts.

Road & Car #1 takes you through the lanes and towns of New England, including Cape Cod, Providence, Hartford, Albany, Syracuse, and Niagara Falls. The scenery reflects the locale, with covered bridges, water wheels, ferries, islands, and classic New England architecture.

As you travel through the New England countryside, you'll see the shifting pat-

terns of autumn weather, as leaves change color and early snowflakes whip against your windshield.

All cars and roadways contained in *Test Drive III: The Passion* and *Road & Car #1* are interchangeable.



Enjoy the beauty of an early New England snowfall in *Road & Car #1*.

SMILE WHEN YOU SAY THAT, PILGRIM

Saddle up and head for the Badlands in *Billy the Kid*, a new wild-west adventure from Ocean Software. You can take on the persona of Billy, his ex-friend Sheriff Pat Garrett, or a dangerous but good-hearted gunslinger.

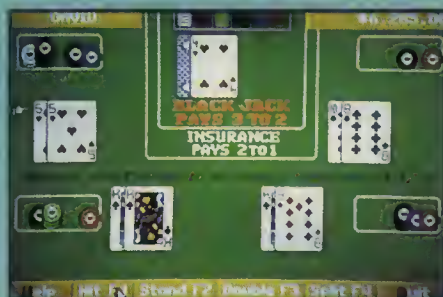
All the major themes of western lore—agunfight, bank robbery, train heist, card game, barroom brawl, and love interest—are here in the game.

Billy the Kid features digitized graphics and sound, and includes a 30-minute MIDI soundtrack.



A nighttime train robbery is one of the many wild-west capers in *Billy the Kid*.

ANTE UP



Try for the magic number of 21 in *Trump Castle II: The Ultimate Gambling Simulation*.

are to woo Lady Luck and beat the odds in *Trump Castle II: The Ultimate Gambling Simulation*. In this new release from Capstone, you can visit the Donald's casino in Atlantic City and risk your bankroll playing baccarat, blackjack, craps, slot machines, and video poker.

All games except video poker are played according to the rules and regulations of the New Jersey Casino Control Commission. The *Trump Castle*

Gaming Guide included with the game will fill you in on the nuances of casino wagering.

If you're feeling lucky enough to rub elbows with the high rollers at the real Trump Castle, Capstone has included a discount coupon for a stay at the casino resort.

Trump Castle II features digitized graphics and sound, and supports Ad Lib and Sound Blaster sound boards.

RETURN TO THE KILRATHI

Continue the saga of the Tiger's Claw in *Wing Commander—The Secret Missions 2: Crusade*, the newest add-on disk for use with *Origins' Wing Commander*.

In *The Secret Missions 2*, the huge Kilrathi fleet is planning

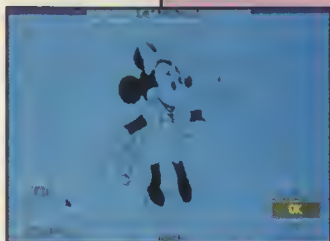
to begin its bloody holy war with an attack on an isolated star system peopled with peaceful, primitive natives. But a Kilrathi warrior defects with a small destroyer, and gives the Tiger's Claw vital information about the plans of the evil

Kilrathi.

Your mission is to infiltrate the Kilrathi fleet in the purloined vessel. You must uncover the diabolical truth behind the "holy war" and stop the enemy invasion force before your own armada is declared.

PRINT FUN

Kids can print their own creations with **Disney Software's** two new print kits featuring some of Walt Disney Studios' popular stars. *Mickey & Minnie's Fun Time Print Kit*



Print your own Minnie-embossed letterhead with Minnie & Mickey's Print Kit.

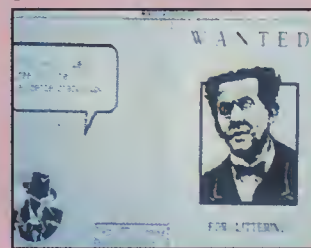
can print letterhead, invitations, posters, banners, place-mats, and greeting cards with ten different pictures of Mickey, Minnie, Pluto, Baby

Mickey, and Baby Minnie. A total of 20 decorative borders and 6 typefaces offer a variety of seasonal, sporting, and school themes.

The *Dick Tracy Crime-stopper Print Kit* lets you print wanted posters, banners,

greeting cards, invitations, masks, wrist radios, and police badges. The kit features 50 images, including Dick Tracy, Flattop, Prune Face, Itch, Lips Manlis, and Big Boy. The print kit also offers 15 different borders and 6 typefaces.

Both Disney products support most popular printers.



With *Dick Tracy Crimestopper Print Kit*, you can print wanted posters of your favorite criminals.

FLEET VICTORY

Achieve galactic domination as you lead your forces to victory in *Armada 2525*. In this multi-player space-strategy game from *Interstel*, you can compete against up to five human or computer foes.

You control only one planet when you begin to build your empire. From that relatively humble beginning, you must expand your power base by conquering new planets and

establishing colonies. Industrial production and clever diplomatic alliances also play an important part in your strategy.

Armada 2525 features both space and ground combat, various space vessels, and five classes of planets. Strategy comes into play as you develop eight different technological industries, and use different levels of diplomacy to manipulate your enemies.

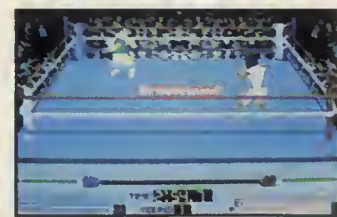
COME OUT PUNCHING

If you think you've got the pugilistic skills to make it to the top of the fight game, **Broderbund's** first sports software release should interest you. In *Sports Simulated: Boxing*, you can vie for the title and best career record by creating up to nine different boxers with varying degrees of power, speed, and stamina.

Sports Simulated: Boxing has nine camera angles, a boxer database, an exhibition mode, instant replay from ten different perspectives, and a feature that lets you manage and track each fighter's career.

The figures in *Sports Simulated: Boxing* were created by converting film of actual boxers into filled-polygon shapes — a technology previously used only in flight simulation software. This technique usually results in smoother animation and game play.

Broderbund has also released *Sports Simulated: Tennis*, which uses the same filled-polygon graphics as found in *Sports Simulated: Boxing*.



Take a shot at the title in *Sports Simulated: Boxing*.

POWER STRUGGLE IN THE MIDDLE AGES

The perils and intrigue of medieval warfare come to the PC in the multi-player strategy game *Medieval Lords*. The new **Strategic Simulations Incorporated (SSI)** game is set in Europe and the Middle East between 1028 and 1500 A.D., with each player assuming the role of advisor to either an emperor, king, emir, sultan, caliphate, khan, or duke.

Players must balance political power between nobles and bureaucrats at home, while



Wily diplomacy and bold military strikes win you a far-flung empire in *Medieval Lords*.

forming alliances and plotting revolts abroad. Geography, religion, politics, and economy will affect your strategies: A Christian English king would have to react to circumstances entirely different from those facing a Muslim Arabian king.

Medieval Lords has on-screen commands and a menu-driven interface. As many as 16 would-be lords can play, with one to six human opponents and up to 10 computer rivals.

VANISHING ACT

One morning the group of engineers, scientists, doctors, and pilots manning Moonstation Alpha saw something startling: the Earth disappearing in a flash of light. In the science-fiction role-playing game *Planet's Edge*, from **New World Computing**, you must lead the station's personnel on a reconnaissance mission to solve the mystery of Earth's disappearance.

During your investigation, you find an alien ship near Earth's former orbit. But the alien crew has been killed by the meltdown of a strange device in their laboratory. Did this device cause Earth to dematerialize? Or is the Earth trapped in an interdimensional void? Only rebuilding the alien apparatus will answer your questions and possibly save Earth.

In *Planet's Edge* you travel to 60 different worlds and interact with alien populations to gain information about the device. The game has random, multi-solution plot puzzles, and gives you the power to outfit your fellow travellers with custom-designed weapons, ships, and miscellaneous gizmos. There's also a real-time option for those who prefer arcade-style play.

PLATINUM RECORD

Electronic Arts has achieved a milestone, now having sold 15 million computer games. The first title shipped by the company was *Pinball Construction Set* in 1983. Since then, Electronic Arts has had nine game titles certified platinum (over 250,000 units sold). Its five all-time best-sellers are *Chuck Yeager AFT*, *The Bard's Tale*, *Dr. J and Larry Bird Go One-on-One*, *Music Construction Set*, and *Populous*.

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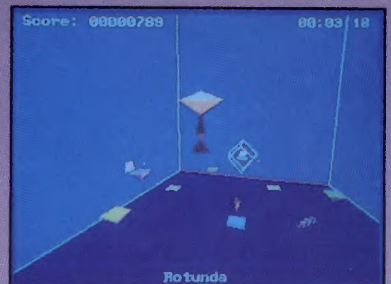
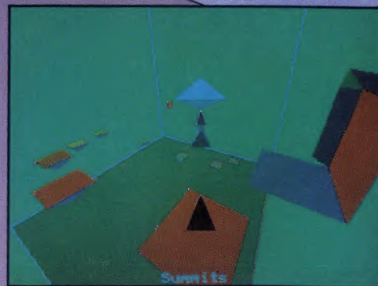


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